

AN EXPLORATORY STUDY OF A
MULTIDIMENSIONAL MODEL
OF RESILIENCY

By

JERILYN THORMAN

Bachelor of Arts in English
Oklahoma State University
Stillwater, Oklahoma
1995

Master of Science in Applied Behavioral Studies in
Education
Oklahoma State University
Stillwater, Oklahoma
1998

Submitted to the Faculty of the
Graduate College of the
Oklahoma State University
in partial fulfillment of
the requirements for
the Degree of
DOCTOR OF PHILOSOPHY

AN EXPLORATORY STUDY OF A
MULTIDIMENSIONAL MODEL
OF RESILIENCY

Dissertation Approved:

Diane Montgomery

Dissertation Adviser

Kay Bull

Barbara Carlozzi

Janice Miller

A. Gordon Emslie

Dean of the Graduate College

ACKNOWLEDGEMENTS

I would like to begin by expressing my sincere gratitude to all of the people who made this endeavor possible. I have been blessed to have Dr. Diane Montgomery as my mentor, chair, and advisor. I cannot thank her enough for all of her support, encouragement, and patience. Her dedication to her students is unparalleled. I was also fortunate to have wonderful and supportive committee. Dr. Janice Miller spent a great deal of time working with me on the design and statistical aspects of this study. I learned a great deal from her through this process. Drs. Barbara Carlozzi and Kay Bull provided encouragement, support, insight and suggestions. I greatly appreciate all of the time and effort spent by each of my committee members in helping me to achieve this goal.

I would like to further express my gratitude to the Project CREATES administrators, researchers, staff, teachers, principals, and students. Thank you to the staff for your help with data collection, listening to my ideas, and moral support. The teachers helped by taking time away from their classes for data collection and the students patiently completed the assessments. I would not have been able to complete this dissertation without each of you.

My family has been wonderful. My mother and father provided support and encouragement to me throughout this entire process. My mother helped score assessments and read countless drafts. She and my father were sounding boards for my ideas, listened to my concerns, and helped me remain centered. If it had not been for my family, friends, and colleagues this project would not have been possible.

TABLE OF CONTENTS

Chapter	Page
I. INTRODUCTION TO THE STUDY	1
A Brief History of the Study of Resilience.....	4
Background to the Problem	5
Statement of the Problem and Purpose.....	7
Theoretical Framework	9
Research Questions	10
Significance of the Study.....	11
Definitions of Terms	12
Limitations	13
Chapter Organization	14
II. REVIEW OF LITERATURE	16
Historical Context of Contemporary Resilience Research	16
The Three Waves of Understanding Resilience.....	21
The First Wave: Resilient Characteristics.....	22
The Second Wave: Resilience as a Process	23
The Third Wave: Resilience as a Force	25
Summary of the Three Waves	26
Resilient Force Construct	26
Sense of Purpose.....	27
Creativity.....	30
Sense of Connectedness	35
Hope.....	36
Summary of the Resilient Force Construct	38
Assessment of Resilience	38
Stress, Risk, and Adversity	39
Criteria Used to Assess Positive Adaptation.....	41
Emotionality Construct.....	44
Summary.....	45
III. METHOD.....	46
Participants.....	47
Instrumentation	49

Chapter	Page
Beck Youth Inventories, Second Edition	50
Multidimensional Students' Life Satisfaction Scale.....	56
Goff-Torrance Creativity Identifier	58
The Children's Hope Scale	59
Summary	62
Procedure	63
Data Analysis	64
Summary.....	65
 IV. RESULTS	 66
Descriptive Statistics	67
Summary of Descriptive Statistics.....	68
Response to Research Questions.....	69
Question One.....	69
Question Two.....	72
Question Three	74
Summary.....	78
 V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS	 80
Summary of Findings	81
Conclusions.....	84
Resilient Force.....	85
Emotionality	86
Conclusions drawn from the Relationship between Resilient Force and Emotionality	88
Summary of Conclusions	88
Limitations to Conclusions	89
Implications	91
Implications for Theory	91
Implications for Practice	93
Implications for Research	94
Closing Remarks	95
 REFERENCES	 96
 APPENDIX A – FREQUENCY DISTRIBUTIONS OF SCORES ON ASSESSMENT INSTRUMENTS	 110
 APPENDIX B— INSTITUTIONAL REVIEW BOARD APPROVAL.....	 114

LIST OF TABLES

Table		Page
1	Student Demographic Information	47
2	Gender, Grade, and School Affiliation of Participants.....	48
5	Descriptive Statistics for the Variables.....	67
4	Bivariate Correlations Among the Variables within the Resilient Force Construct.....	70
5	Bivariate Correlations Among the Variables within the Emotionality Construct.....	73
6	Canonical Solution for Function 1	77

LIST OF FIGURES

Figure		Page
1	Distribution of Beck Anxiety Inventory for Youth	110
2	Distribution of Beck Depression Inventory for Youth	110
3	Distribution of Beck Anger Inventory for Youth.....	111
4	Distribution of Beck Disruptive Behavior Inventory for Youth	111
5	Distribution of Beck Self-Concept Inventory for Youth	112
6	Distribution of Children's Hope Scale	112
7	Distribution of Multidimensional Students' Life Satisfaction Scale.....	113
6	Distribution of Goff-Torrance Creativity Identifier	113

CHAPTER I

INTRODUCTION TO THE STUDY

“That which does not kill us makes us stronger.”

—Friedrich Nietzsche

The emotional strength of children and their ability to flourish under even the most hostile conditions is inspirational. Children who are exposed to poverty, abuse, neglect, violence, and other traumatic life events are often more likely to develop emotional problems than children from less stressful environments (Johnson, 2005). However, in spite of tremendous life pressures, many children considered to be at high risk to develop social or psychological problems later in life exhibit resilience (Luthar & Zelazo, 2003). These children gain knowledge and understanding as they overcome the emotional toll of adversity and their capacity to face stressful life events in the future is fortified. This demonstration of humankind’s ability to self-heal provides hope and encouragement against the backdrop of what is at times a chaotic society.

Reports of teenage violence, school violence, and adolescent gang association have become commonplace in the media over the past several decades. The number of children and adolescents held in juvenile detention centers has increased over 72% since the early 1990’s and 2,000,000 juveniles were arrested in 2002 (Mazzotti & Higgins, 2006). There is a high positive correlation between behavioral problems and internalizing disorders, such as depression (Eisenberg, Spinrad, Fabes, Reiser, Cumberland, &

Shepard, 2004; Wiesner & Kim, 2006). This is substantiated by evidence suggesting that 52% to 78% of juvenile offenders show symptoms of depression and 6% to 41% have anxiety disorders (Mazzotti & Higgins).

Several societal and environmental factors are often associated with the development of emotional and behavioral problems. Children from low-income, single-parent households in impoverished areas are at a greater risk for developing mental health problems than children from middle and upper income families (Jonson-Reid, 2004; Mash & Barkley). This is supported by the overrepresentation of children from low-SES backgrounds presenting with emotional disorders. Approximately 20% percent of children living in low-income households have mental health problems; whereas, only 10% of children within the general population have mental health problems (Howell, 2004; Mash & Barkley, 2003). Other risk factors include experiencing traumatic events such as maltreatment, abuse and neglect. Exposure to domestic and neighborhood violence and serious care-giving deficits, which are often related to parental substance abuse and parental mental illness, also increase the likelihood of individuals developing emotional and substance-abuse related problems during their lifetime (Hurst, 2005; Jonson-Reid; vanDeMark, Russell, O'Keefe, Finkelstein, Noether, & Gampel, 2005; Williams-Evans & Myers, 2004).

The prevalence of exposure to one or more risk factors during childhood is high. Over 13,000,000 children live in poverty (Luthar & Cicchetti, 2000). Poverty has been associated with numerous risk factors including low maternal education, parental mental illness, negative life situations, and limited family and community resources (Mash and Barkley, 2003). An estimated 25% of children are exposed to a family member's alcohol

abuse or dependence and approximately 16% of children live with parents who abuse drugs (Grant, 2000). Approximately 9,000,000 adolescents report having witnessed at least one violent act during their childhood and of these adolescents 3,000,000 report being attacked with a weapon (vanDeMark et al., 2005).

Children with mental health problems continue to have difficulties as adults (Foster & Jones, 2005). As adults, these individuals have children who are often exposed to “high risk” environments (Foster & Jones). These problems are multigenerational and the cycle is difficult to break. This often results in a family’s involvement with government funded social service programs, such as child welfare, juvenile justice, mental health services and special education. This is fiscally detrimental to society as the resulting costs are both tremendous and enduring (Foster & Jones).

Although the statistics are grim, not all children who experience risk factors such as poverty and single parentness develop emotional problems and maladaptive behaviors. Some children demonstrate resilience, as they appear to personally grow and gain insight through hardships. Personal characteristics attributed to an individual’s capacity to be resilient develop and strengthen as well. Resilient individuals, like other individuals, initially experience emotions such as hurt, sadness, loss, anxiety and anger, when exposed to adverse life events and situations (Richardson, 2002). However, people who exhibit resilience seem to go through a specific process which enables them to gain knowledge and self-understanding while moving through the event. Little is known about that which initiates this process. Some theorists ascribe this ability to a motivational source within the individual (Richardson; Swarbrick, 2006). In order to know effective

ways in which to strengthen resilience in children, it is important to understand this source which serves to motivate the process of resiliency.

A Brief History of the Study of Resilience

In order to understand the theoretical questions and conceptual framework of present day resiliency research, it is important to understand its history. Historically, social scientists conceptualized problems of children and adolescents through the identification of an individual's weaknesses rather than his or her strengths (Howard, Dryden, & Johnson, 1999; Masten, 2001; Masten & Powell, 2003; Tedeschi & Kilmer, 2005). Therefore, early studies of children at risk for psychosocial and behavioral problems due to poverty, maltreatment, lack of parental involvement, exposure to violence or trauma, and other risk factors centered on the classification of symptoms and negative outcomes (Bennett, Elliott, & Peters, 2005; Howard et al., 1999; Masten & Powell; Richardson, 2002). Research participants were generally children and adolescents identified as having maladaptive behavior. Investigators looked for individual and environmental factors which might have caused the behavior (Cicchetti, 2003). In this type of deficit-based model, individuals are characterized in terms of deficiencies; consequently, their assets are overlooked (Swarbrick, 2006).

In the 1950's a group of researchers (Garmezy et al., 1984; Rutter, 1979; Werner & Smith, 1982) became frustrated with this deficit approach, as they recognized that not all children labeled "at risk" develop maladaptive behaviors. In fact, some individuals have positive outcomes in the face of adversity (Masten, 2001; Masten & Powell, 2003). These researchers began focusing on the strengths of individuals rather than their

weaknesses. As a result, over the next two decades, increased interest grew in the area of understanding how and why some people survive and ultimately thrive in spite of adverse situations (Tedeschi & Kilmer, 2005). Children who survived risk and were well adjusted became the focus of many research studies (Garmezy, Masten, & Tellegen, 1984; Garmezy & Rutter, 1988; Luthar, 1991; Werner & Smith, 1982). Several of the risk and resilience studies were longitudinal and spanned decades (Werner & Smith; 1992; 2001).

Over the next three decades the concept of resiliency would evolve in what Richardson (2002) has coined the “three waves” (p. 308) of understanding. The first wave identified resiliency as a set of protective personal and environmental attributes (Joseph, 1994; Richardson; Tedeschi & Kilmer, 2005; Valentine & Feinauer, 1993). The second wave described resiliency as a process of coping with adversity (Joseph; Richardson; Tedeschi & Kilmer; Valentine & Feinauer). The current and third wave characterizes resiliency as an adaptational system initiated by a motivation force which is present within all individuals, which, if protected and nurtured, will allow adaptive development in adverse situations and traumatic experiences (Geanellos, 2005; Richardson).

Background to the Problem

For the purposes of this study, resilience is conceptualized and understood in terms of the third wave. Resilience is an inherent system with a primary function much like body systems, for example, the respiratory system. The primary function of the respiratory system is to supply blood with oxygen. Respiration is the process through which blood is supplied with oxygen and breathing ignites this process. Thus, to promote

efficient respiration, institutions can adopt policies to protect lungs and individuals can strengthen that which is necessary to breathe. Likewise, the primary function of the resilience system is positive adaptation and personal growth in times of stress and adversity. The process of positive adaptation is also called resilience. However, the source which breathes life into this process is unknown. Therefore, that which needs to be protected and nurtured in order to promote effective resilience is also unknown.

Many children are routinely faced with parental drug and alcohol abuse, poverty, violence, maltreatment, abuse, or neglect. Exposure to societal and familial risk factors increases the probability of the child developing emotional and substance-abuse related difficulties. The effect is cyclical, as children exposed to adversity are more likely to become adults whose unstable and chaotic lives and home environments are risk factors for their own children. However, when functioning properly, one's innate resilience system aids in emotional healing and results in increased insight and personal growth. Unfortunately, sometimes the resilience process is not instigated, which is problematic as it raises the possibility for negative outcomes. Increased understanding of the initiating source of the resilience process might enable schools, parents, teachers, and others to protect and strengthen that source.

The study of the concept of resilience may give insight into ways in which the source of resilience might be preventively fostered and nurtured so that children can more positively and adaptively cope with challenges, struggles, and adverse life situations. A great deal of research has been conducted regarding the identification of personal and environmental attributes associated with resilience. Many characteristics have been identified that differentiate the profile of a person who adapts and grows in response to

life's challenges and those who do not. Furthermore, researchers have recognized that resilience is a process much like other developmental processes and is not simply a compilation of personal and environmental attributes. However, little attention has been given to understanding what initiates the resiliency process within an individual (Bogar & Hulse-Killacky, 2006; Richardson, 2002).

Many researchers studying resilience define the concept by examining life skills easily observed by others such as, pro-social behavior and academic success (Cicchetti & Rogosch, 1997; Eisenberg, Fabes, Guthrie, & Reiser, 2000; Eisenberg et al., 2004; Hines, Merdinger, & Wyatt, 2005; Hoyt-Meyers, Cowen, Work, Wyman, Magnus, & Fagen, et al., 1995; O'Donnell, Schwab-Stone, & Muyeed, 2002). Although these factors provide valuable information regarding a child's social functioning, they do not address the internal emotional functioning of a child. Many children who experience emotions such as anxiety, anger, and depression do not display behavioral or academic difficulties. The outcome of resilience is described as increased "growth, knowledge, self-understanding, and...strength of resilient qualities" (Richardson, 2002, p. 310) therefore, it is necessary to examine resilience in terms of internal emotional states, as well as external behaviors.

Statement of Problem and Purpose

When exposed to adversity some children suffer from increased subjective experiences of negative emotional states. Other children have less intense experiences of negative emotional states when faced with psychosocial stressors. The third wave of understanding resilience contributes growth through adversity to an internal motivational force (Richardson, 2002). The notion of the third wave is primarily theoretical in nature.

Little research has been conducted to provide empirical evidence for the third wave, as such, little is known about the motivational force and its relationship to resilient patterns in individuals.

The primary purpose of this study was to establish a basis in the philosophy of the third wave of resiliency, conceptualized by Richardson (2002), as a motivational force which drives an individual to experience personal growth through adversity. In an effort to achieve this goal it was necessary to examine the relationship between the motivational force and the degree to which a person was demonstrating a resilient pattern, which is characterized by “doing okay” within the context of past or current adversity (Masten & Powell, 2003). Thus, for this study a review of resilience and related literature provided theoretical support for the creation of two constructs, which were named *Resilient Force* and *Emotionality*. The constructs were named to reflect the model of the third wave of resiliency, which was tested for this study.

The Resilient Force construct represents Richardson’s conceptualization of resilience as a motivational force. Measures of sense of purpose, sense of connectedness, creativity, and hope operationalized the Resilient Force construct. A review of previous research in the area of resilience, as well as, related literature provided theoretical support for the operational definition of the Resilient Force construct (Alvord, & Grados, 2005; Baruth & Carroll, 2002; Bernard, 1991; Brooks, 1994; Buckner, Mezzacappa, & Beardslee, 2003; de Souza, 2006; Hart & Waddell, 2003; Luthar, 1991; Richardson, 2002; Rolf, Masten, Cicchetti, Nuechterlein, & Weintraub, 1990; Werner & Smith, 2001).

In order to examine the relationship between the Resilient Force construct and resilient patterns, it was necessary to establish the criteria for determining whether an individual was or was not demonstrating a resilient pattern. For the purposes of this study, doing okay was defined as being relatively free from frequently occurring intense negative feelings which was represented by the Emotionality construct. Measures of anger, anxiety, depression, and disruptive behavior operationalized this construct. The participants chosen for this study were considered at risk, as they were from low-income schools and poverty has been identified as a substantial risk factor (Alvord & Grados, 2005; Bennett et al., 2005; Eisenberg et al., 2004; Kim-Cohen, Moffitt, Caspi, & Taylor, 2004). As such, the Emotionality construct served not only as a measure of doing okay, but assessed the degree to which a participant was or was not displaying a resilient pattern. In an attempt to provide empirical support for the philosophy of the third wave, the relationship between the Resilient Force construct and the Emotionality construct was examined.

Theoretical Framework

The theoretical framework which guided this study was the third wave of resilience as postulated by Richardson (2002). According to Richardson, the first wave focused on identifying characteristics that seemed to be associated with resilience. The second wave examined resilience as a process of adapting to adverse situations which resulted in the development and fortification of resilient characteristics. Resilience is conceptualized in the third wave as a motivational force within the human spirit that compels an individual to positively adapt and change when confronted with adversity.

According to Richardson this resilient force, which may be buried deep within some people, can be nurtured and brought to the forefront. The Resilient Force drives an individual to “live, feel safe, feel loved, and be nurtured” (p. 317).

For this study, the Resilient Force construct was conceptualized as dimensions of spirituality or elements of the human spirit which are especially relevant to psychological well being, as identified by Hart and Waddell (2003). Like Richardson (2002), Hart and Waddell suggest that nurturing facets of the human spirit such as connectedness, love, wisdom, creativity and trust may help to heal emotional wounds. Hart and Waddell defined six dimensions of spirituality of which four were operationalized for this study to examine the Resilient Force construct; they are 1) Meaning, Purpose, and Truth; 2) Creativity: Finding Voice; 3) Meeting the World: Boundaries and Connections; 4) and Hope. For the purposes of this study, these dimensions are identified as sense of purpose, creativity, sense of connectedness, and hope. Hart and Waddell suggest that a strong sense of purpose allows individuals to have insight into their strengths and weaknesses, their passions, and their purpose in life. Creativity gives an individual a voice and an outlet for self-expression. A sense of connectedness refers to establishing safe and appropriate interpersonal relationships. Hope allows an individual to feel that he or she has some control of his or her life and motivates an individual to pursue his or her goals.

Research Questions

The research questions driving this study include:

1. What are the relationships between the variables composing the theoretical Resilient Force construct, which are measures of sense of purpose, sense of connectedness, hope, and creativity?

2. What are the relationships between the variables composing the theoretical Emotionality construct, which are measures of anger, anxiety, depression, and disruptive behavior?
3. What is the multivariate relationship between the variables composing the Resilient Force and Emotionality constructs?

Significance of the Study

This study attempts to establish a basis in the philosophy of the third wave of resiliency as conceptualized by Richardson (2002). Providing support for the third wave may lead to a greater acceptance of the notion that every person is capable of resilience, as the capacity for growth through adversity lies within the unique strengths and characteristics of the individual (Richardson). Understanding resilience in this manner places emphasis on the importance of nurturing and supporting the gifts and talents of children. The first and second waves of understanding resilience suggest that the capacity to be resilient is developed within the context of risk and adversity (Masten, 2001). However, resilience, understood in terms of the third wave, promotes the notion that the capacity for resilience can be preventively fostered and nurtured (Richardson).

Definition of Terms

For the purposes of this study, key terms and constructs are defined as follows:

Resilient Pattern- refers to doing okay despite being faced with risk and adversity (Masten & Powell, 2003). Specifically for this study, it is defined as being relatively free from frequently occurring intense negative feelings in the context of risk and adversity.

Resilient Force- this theoretical construct represents the motivational force within an individual, which drives one to positively adapt and experience personal growth when faced with adversity. Four of the six dimensions of spirituality identified by (Hart & Waddell, 2003) are operationalized to assess the Resilient Force construct. These are sense of purpose, creativity sense of connectedness, and hope.

Sense of Purpose- represents an individual's self-perceptions about his or her competency, potential, and self worth. The Beck Self-Concept Inventory for Youth (BSCI-Y; Beck, Beck, Jolly, & Steer, 2005) was used assess Sense of Purpose.

Sense of Connectedness- refers to having emotionally safe and appropriate interpersonal relationships. Sense of connectedness was assessed using two scales of the Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 2001a).

Hope- refers to one's perceived ability of finding pathways towards goals and the initiative to move toward those goals (Snyder, Hoza, Pelham, Rapoff, Ware, & Danovsky, et al, 1997). Hope was assessed using the Children's Hope Scale (Snyder, et al.).

Creativity- was defined by Torrance's (1990) conception of creativity as divergent production. Creativity enables an individual to have a voice and an outlet for self-expression (Hart and Waddell, 2003). The Goff-Torrance Creativity Identifier (GTCI; Goff, 2005) was used as a measure of creativity.

Emotionality- this theoretical construct represents emotional states which are not typically associated with positive adaptation. Emotionality was assessed by examining the concepts of anger, anxiety, depression, and disruptive behavior.

Anger- refers to one's perceived feelings of maltreatment or persecution, hostile feelings toward and about others, and related physiological symptoms (Beck et al., 2005). Anger was assessed using the Beck Anger Inventory for Youth (BANI-Y; Beck et al., 2005).

Anxiety- refers to excessive worrying, unrealistic fears, and related physiological symptoms (Beck et al., 2005). The Beck Anxiety Inventory for Youth (BAI-Y; Beck et al., 2005) was used to assess anxiety.

Depression- refers to feelings of sadness and negative thoughts about one's self and one's life (Beck et al., 2005). The Beck Depression Inventory for Youth (BDI-Y; Beck et al., 2005) was used as a measurement of depression.

Disruptive Behavior- refers to attitudes and behaviors often associated with negative emotions. Some children may have difficulty verbally expressing feelings of anger, anxiety, and depression and may externalize these feelings through disruptive behavior (Mash & Barkley, 2003). The child's perception of his or her disruptive behavior was assessed using the Beck Disruptive Behavior Inventory for Youth (BDBI-Y; Beck et al., 2005).

Limitations of the Study

The identified limitations are as follows:

This study assumes that all of the participants are considered at risk due to poverty. Risk status was determined based on enrollment in one of two schools with a high percentage of students from low socioeconomic status (SES) backgrounds. While an overwhelming majority of the students attending the schools sampled for this study come

from low income families, it is possible that some participants are not from dramatically low SES households and may not be considered at risk.

With the exception of the creativity assessment, all of the assessments were self-report surveys. Therefore, scores may be artificially raised or lowered intentionally or by careless completion of the assessment.

Due to the nature of some of the assessments, students were ensured only limited confidentiality. Prior to completing the assessment, the students were informed that scores that were concerning would be reported to the counselor because it may be helpful to the student if the counselor knew how he or she was feeling. Although the students were assured they would not get in trouble for their scores, the knowledge that high scores would be reported to the counselor may have biased the scores.

Chapter Organization

Chapter one established the foundation of this study. The introduction provided insight into the need to study resilience. The first section briefly summarized the history of resilience research. The second and third sections provided the background to the problem and the problem statement. This was followed by the theoretical framework, which is the third wave of resilience inquiry as conceptualized by Richardson (2002) and operationalized by four of the six dimensions of spirituality identified by Hart and Waddell (2003). Following the description of the theoretical framework, the purpose of the study, research questions, and significance of the study were addressed in sections five, six, and seven, respectively. Lastly, key terms and constructs related to the study were defined.

The following describes the organization for the remainder of this dissertation:

Chapter II – The second chapter provides an overview of each wave of resilience inquiry. A review of the literature supporting the theoretical constructs of Resilient Force and Emotionality is also provided.

Chapter III – The primary purpose of the third chapter is to present the design and methodology of the study. Chapter three presents a description of the participants and a detailed review of each assessment instrument. The data collection procedure and an overview of the statistical methods used to analyze the data are also provided.

Chapter IV – The fourth chapter provides the results of the statistical analyses employed to address the research questions. Chapter four begins by presenting the descriptive statistics of the data relative to the required statistical assumptions. The research questions provide the organization for the remainder of the chapter.

Chapter V – The fifth chapter presents a summary of the study and initial conclusions. Theoretical implications and practical implications are addressed as are recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

The way in which researchers and social scientists have conceptualized resilience has evolved over the past several decades. Thus, this chapter begins by providing the historical context of resilience research. The second section describes the three waves of resilience inquiry. First wave researchers identified risk and protective factors; second wave researchers studied the process of resilience; and the third and current wave researchers seek to understand the source of resilience. The third section of this chapter addresses the Resilient Force construct, which represents the motivational source of resilience. The Resilient Force section provides theoretical and empirical support for the inclusion of each component within the construct. The fourth section of this chapter examines the way in which researchers have assessed risk and resilience. Finally, a description of the Emotionality construct, which is used to assess positive adaptation for this study, is provided.

Historical Context of Contemporary Resilience Research

The study of resilience grew out of research conducted in the late 1950's, in which researchers explored the relationship between being at high risk for emotionally and socially maladaptive development and the development of socially and emotionally

maladaptive behaviors. Many of the studies focused on individuals with schizophrenia, those who experienced traumatic life events, and people living in poverty. Although members of these high risk-populations developed disorders at a higher percentage than individuals from the general population, researchers discovered that an even greater percentage of these individuals experienced adaptive development and positive life outcomes (Cicchetti, 2003). The realization that not all individuals labeled “at risk” develop emotional, social, and substance abuse related problems served as a catalyst for a new conceptualization of human development. This enlightened view of human growth and potential focused on the notion that an individual’s life outcome was primarily determined by his or her strengths rather than weaknesses. As such, many studies began focusing on the assets of individuals rather than their deficits in an effort to understand why some people develop positively, despite adverse life situations (Masten, 2001; Masten & Powell, 2003; Swarbrick, 2006; Tedeschi & Kilmer, 2005).

Werner and Smith’s (1982, 1992, 2001) longitudinal study of people from Kauai, Hawaii was one of the first studies to discern the positive potential of at risk individuals. Werner and Smith (2001) studied the lives of 698 individuals beginning with their births in 1955. The researchers examined “the impact of biological and psychosocial risk factors, stressful life events, and protective factors on...development” (p. 25). The individuals from Kauai were monitored at ages 1, 2, 10, 17/18, 31/32, and 40. As children, many the participants were exposed to numerous risk factors including impoverished and tenuous home lives typified by uneducated, alcoholic, or mentally ill parents. The researchers discovered that 80% of the participants who faced multiple

adversities demonstrated socially and emotionally adaptive behaviors at ages 10 and 18 and continued to develop into healthy adults. Werner and Smith identified four central characteristics shared by most of the resilient children in Kauai. These characteristics are a proactive approach to problem solving, the ability to turn problems into personal challenges, an easy-going and good natured temperament, and a sense of autonomy and control over one's life (Werner & Smith, 1982, 1992, 2001).

Werner and Smith's study inspired other researchers interested in positive adaptation in the context of adversity. Among those encouraged by the study of the Kauai children were Norman Garmezy and his colleagues. In the forward of Werner and Smith's book *Vulnerable but Invincible: a Longitudinal Study of Resilient Children and Youth*, Garmezy (1982) described the excitement among he and his colleagues at the discovery of the study of the Kauai children. He wrote, "Michael Rutter....carried a manuscript in his hands...and said: 'This comes closer to what we have been talking about than anything I have yet seen!'" (p. xiii). The early researchers exploring risk and resiliency gravitated toward one another as they sought to understand positive adaptation in the face of adversity.

In the 1970's, Garmezy, his students, and colleagues initiated a longitudinal research program, Project Competence, which produced a large body of research focused on identifying individual and family characteristics of "at risk" individuals, as well as, understanding the relationships between risk, internal functioning, and competence defined as "an observable track record of effective adaptation in the child's world of home, school, and neighborhood" (Masten & Powell, 2003, p. 6). Project Competence

research projects examined the competencies among children from the general population who were exposed to many kinds and levels of adversity and children from high-risk populations. Some of the high-risk populations studied included children whose parents suffered from parental mental illness, children living in homeless shelters, and children living in extreme poverty (Dean, 1973; Garmezy et al., 1984; Garmezy & Rutter, 1988; Rolf et al., 1990; Masten, 2001; Masten & Powell, 2003). One Project Competence study focused on understanding the risk and protective factors of four high risk groups (Garmezy, Masten, Nordstrom, & Ferrarese, 1979). The four high risk groups from which the participants were sampled were children of schizophrenic mothers, children of nonpsychotic depressed mothers, antisocial children with externalizing behaviors, and children with internalizing disorders characterized by withdrawn, inhibited or phobic behaviors. The results of this study are as follows:

1. Children whose mothers were depressed had “lower levels of social and academic achievements relative to normal control peers, though not to the degree of the higher risk children’s groups” (p. 32).
2. Children of schizophrenic mothers and the children of neurotic mothers had similar problems, but the problems of the offspring of schizophrenic mothers tend to be more severe and they exhibited more aggression.
3. Children of schizophrenic mothers more closely resembled the group of antisocial children, than the children of depressed mothers, the inhibited group of children, or the control group.

4. Although the children of depressed mothers demonstrated some problems in school, they more closely resembled the control group than the other groups.
5. The parental patterns of the internalizing group of children and the antisocial group of children differed substantially. The externalizing group had greater family dysfunction than the internalizing group. Familial problems associated with the externalizing group included parental alcoholism, divorce, poverty, and a parent with a prior psychological history or criminal record. Children with internalizing behaviors tended to come from intact families in which the parents appeared to have more interest in their child's well-being.
6. Children of schizophrenic mothers and the acting-out children tended to have attentional problems.

Based on these results Garmezy et al. (1979) concluded that a maladaptive home environment was a substantial risk factor. Additionally, the Project Competence researchers surmised that in a nurturing environment children could develop competencies. According to Garmezy et al. these conclusions implied that psychopathology in adulthood could be prevented.

Michael Rutter, another early researcher of risk and resiliency, came to many of the same conclusions as the Project Competence researchers. Rutter (1979) identified the following family variables associated with psychiatric disorders in childhood: severe marital problems, poverty, a large family, maternal psychiatric disorders, parental criminality, and removal from the home. However, Rutter discovered that approximately

25% of children exposed to multiple risk factors appeared to develop normally, as evidenced by their socially adaptive behaviors. By studying these adaptive children, Rutter and his colleagues identified factors which appeared to counteract the risk factors. These include having a good temperament, having good health, being female, having a high self-esteem, and being cognizant of future opportunities. Like the Project Competence researchers, Rutter and his colleagues concluded that competencies could be fostered in children from deprived environments (Rutter).

The studies of Werner and Smith, Project Competence, Michael Rutter, and others laid the foundation for current studies of risk and resiliency. By focusing their efforts on understanding adaptive behavior rather than maladaptive behavior, these researchers promoted a more positive conceptualization of human development. Their research promoted the idea that people were capable of positive development despite multiple life challenges and risk factors. The discoveries of these researchers served as an impetus for a new area of research, the study of resilience (Masten, 2001).

The Three Waves of Understanding Resilience

The foundational studies of Werner and Smith, Garmezy and his colleagues, Rutter, and others paved the way for contemporary resilience research. Over the next three decades the study of resiliency would evolve in what Richardson (2002) has coined the “three waves” (p. 308) of understanding: the first wave identified resiliency as a set of protective personal and environmental attributes (Joseph, 1994; Richardson; Valentine & Feinauer, 1993); the second wave described resiliency as a process of coping with

adversity (Joseph; Richardson; Tedeschi & Kilmer); and the third wave characterizes resiliency as an adaptational system present within all individuals which, if protected and nurtured, will allow adaptive development in adverse situations and traumatic life experiences (Geanellos, 2005; Richardson).

The First Wave: Resilient Characteristics

First wave studies in the area of resilience focused on identifying the characteristics that differentiated “at risk” children adapting positively from maladaptive children at risk (Hines et al., 2005; Richardson, 2002; Small & Memmo, 2004). These resilient qualities, which serve to buffer individuals against the negative impact of identified risk factors, are termed “protective factors”. Protective factors are classified as either internal, characteristics existing within the individual, or external, characteristics existing within one’s home, school, or community environment (Yates, Egeland, & Sroufe, 2003). Internal protective factors include having a proactive approach to problem solving, a good temperament, a sense of humor, spirituality, talent, good communication skills, and sociability (Bogar & Hulse-Killacky, 2006; Joseph, 1994; Ungar, 2005; Valentine & Feinauer, 1993; Waaktaar, Christie, Borge, & Torgersen, 2004). Additionally, Rutter (1979) and Werner and Smith (1982) identified being female as a protective factor, as they found that females tend to cope better with adversity than males. External protective factors include having a strong support system either within or outside of one’s home environment, consistent quality care, guidance and discipline without rejecting attitudes, and positive school environments (Howard et al., 1999;

Richardson, 2002; Valentine & Feinauer, 1993; Yates et al., 2003). First wave researchers also discovered that individuals having many protective factors were more likely to display resilience than individuals with only a small number of protective factors (Howard et al.). For example, Werner (2001) found that children who had several protective factors were more likely to demonstrate a resilient pattern than were children with fewer protective factors. Additionally, Hoyt-Meyers et al. (1995) discovered that children who had more than one source of support responded more positively when confronted with adversity than children with fewer support systems.

The Second Wave: Resilience as a Process

The second wave of resiliency inquiry extended the research from isolating risks and protective factors to identifying resiliency as a process of overcoming adversity with new insight and personal growth (Luthar, Cicchetti, & Becker, 2000; Richardson, 2002). According to this process approach, resilient qualities are not stationary, but “shift with...changes in cognition, emotion, and the social environment and may also vary with the cultural context” (Hines et al., 2005, p. 382). Thus, a fundamental objective of this wave of resilience research was to identify the processes which underlie adaptive development despite adverse situations.

The resiliency process is one that occurs in stages. The onset of the process begins with a traumatic event, psychosocial stressor, or a significant disruption within an individual’s life. Anger, sadness, confusion, hurt, and anxiety often follow the disruption. Many times people do not move beyond these emotions and indulge in self-pity;

however, for individuals engaged in the resilience process, these emotions lead to introspection, insight, and eventually to personal growth. For some people this personal growth may be expressed in a determination to help others who are faced with the same type of adversity or to prevent others from experiencing the same type of trauma. For other individuals growth through adversity may be expressed in subtler ways. For example, an individual may choose to simply have a more optimistic view of life. For these individuals and many others resiliency is not just simply bouncing back, but it is bouncing forward with an improved sense of self, strength and endurance (Bogar & Hulse-Killacky, 2006; Bonanno, Wortman, Lehman, Tweed, Haring, & Sonnega, 2002; Richardson, 2002).

Second wave researchers attempted to explain the process of overcoming adversity and the ways in which individuals strengthened or acquired the characteristics and traits associated with resilience (Geanellos, 2005). Richardson (2002) suggests that life is a process of resilient reintegration in which individuals are repeatedly faced with stressors. When encountered with difficult life experiences and situations, individuals can choose to fight or surrender. According to Richardson when individuals choose to confront and overcome adversity, the characteristics which enabled them to do so are strengthened. For example if an individual engages in problem solving, his or her ability to problem solve will strengthen. Resilient characteristics can be likened to muscles; the more they are used the stronger they become. Additionally, individuals may develop new traits associated with resilience. For instance, a passive individual may develop assertive

qualities in order to proactively resolve a challenging situation, as the drive within the individual to overcome his or her adversity is stronger than the individual's timidity.

The Third Wave: Resilience as a Force

The third and current wave of resiliency inquiry characterizes resilience as an adaptational “force within everyone that drives them to seek self-actualization, altruism, wisdom, and harmony” (Richardson, 2002, p. 313). Self-actualization refers to “the desire to become more and more what one is, to become everything that one is capable of becoming” (Maslow, 1943, p. 382). Maslow suggested that in order to be truly happy “What a man *can* be he *must* be” (p. 382). The premise of the third wave philosophy is that individuals are driven to overcome adversity as they strive toward self-fulfillment; however, the source of this drive is unknown. Therefore, the third wave questions focus on understanding the nature of this force in an attempt to identify that which motivates, inspires, and sparks resilience (Richardson).

In order to address third wave questions, Richardson has identified two postulates of resilience. The first postulate is “a source for actuating resilience comes from one's ecosystem” (p. 314). Thus, the strength or motivation which initiates resilience is person specific. For some individuals this motivating center might be belief in God or a creative force. The first postulate underscores the importance of respecting what an individual recognizes as his or her source of strength. The second postulate is “resilience is a capacity within every soul” (p. 315). Richardson explains that “soul” refers to the physical, emotional, cognitive, and creative/spiritual dimensions of an individual. Thus,

for resilience to be initiated the whole person must be nurtured and strengthened (Richardson).

Summary of the Three Waves

The early studies of Werner and Smith, Garmezy, Rutter and others inspired the study of resilience, which has evolved in three waves of understanding. First wave researchers sought to understand risk and protective factors. Second wave researchers understood resilience as a process of overcoming adversity through which individuals developed and fortified protective factors and resilient characteristics. Resilience is conceptualized in the third wave as the drive toward self-actualization which compels individuals to positively adapt and transform in the face of life's challenges (Geanellos, 2005; Richardson, 2002). According to this framework, all people are capable of resilience, as it is a basic adaptational system; however, for the resilience system to function properly it must be activated. Thus, third wave researchers seek to understand that which ignites resilience.

Resilient Force Construct

The theoretically based Resilient Force construct was created in an effort to explain the actuating source of resilience. Through a close examination of Richardson's (2002) postulates, 1) the source of resilience is person specific and 2) the source of resilience is within one's soul, one can surmise that the motivating source of resilience is rooted within the spirit of the individual (Richardson). Thus, nurturing a person's spirit by acknowledging strengths, encouraging talents, and allowing autonomy, may fortify the

individual's capacity to be resilient. Tobin Hart and Amy Waddell (2003) have identified six dimensions of spirituality that are inherent in all individuals. The dimensions are: 1) Meaning, Purpose and Truth; 2) Creativity: Finding Voice; 3) Meeting the World: Boundaries and Connections; 4) Hope; 5) Sources of Comfort, Wisdom, and Guidance; and 6) Culture and Religion (Hart & Waddell). Hart and Waddell suggest that nurturing these dimensions in individuals leads to emotional healing. As such, cultivating these spiritual elements in children may increase their capacity to overcome adversity. Four of the six dimensions of spirituality were chosen to operationalize the Resilient Force construct. The first four dimensions were chosen to compose the construct as they are internal rather than external factors. For this study, the dimensions are identified as 1) sense of purpose; 2) creativity; 3) sense of connectedness; and 4) hope. The following subsections present support for the inclusion of each concept within the Resilient Force construct.

Sense of Purpose

As resilience in the third wave is understood as a drive toward self-actualization, sense of purpose is a central component of the Resilient Force construct (Richardson, 2002). Before individuals can strive toward becoming who they were meant to be they must have an understanding of who they are. Having a sense of purpose allows individuals to have insight into their strengths, weaknesses, and passions, and serves to guide an individual to find meaning in his or her life (Hart & Waddell, 2003). Maslow (1943) suggested that "feelings of being useful and necessary in the world" (p. 382) provide support for one's journey toward self-actualization. Similarly, Werner (1984)

describes a sense of purpose in children as necessary helpfulness. She discovered in her work with the people in Kauai that children who felt purposeful exhibited a greater capacity for resilience, as having a sense of purpose aids an individual in developing independence, autonomy, and the willingness to accept challenges (Werner & Smith, 2001).

Several researchers have conducted studies which provide support for the inclusion of sense of purpose within the Resilient Force construct (Alvord & Grados, 2005; Dearden, 2004; Everall, Altrows, & Paulson, 2006; Hammond, 2004; Ungar, et al., 2007; Werner & Smith, 1982, 1992, 2001). In one such study, Dearden utilized interviews and rating scales to identify the protective factors of adolescents between the ages of 13 and 19 living in foster homes. With the exception of having a positive view of self, Dearden differentiated resilient participants from less resilient participants based on externally observable factors including school attendance, academic achievement, and minimal drug and alcohol use. Dearden's findings suggest that individual's with a strong sense of purpose characterized by positive plans for the future with regard to employment and/or education were often indicative of positive outcomes. Similarly, Hammond concluded from her qualitative study of adults that a strong sense of purpose characterized by self-understanding and a sense of identity was a determinant of resilience. The findings from a study of suicidal female adolescents conducted by Everall, Altrows, and Paulson provide additional support for the inclusion of sense of purpose within the Resilient Force construct, as the researchers discovered that individuals with a

strong sense of purpose were more likely to develop emotional stability than were individuals without a strong sense of purpose.

Ungar and his colleagues (2007) demonstrated that the positive outcomes associated with a strong sense of purpose transcend cultures in a qualitative cross-culture study of risk and resilience. The study participants included individuals between the ages of 12 and 23 from 11 countries. The countries represented in the study were Canada, China, Israel, Palestine, Columbia, Russia, India, the United States, Gambia, Tanzania, and South Africa. The individuals included in the study were confronted with various risk factors including poverty, war, genocide, violence, drug and alcohol addictions, dissolution of the family, and parent or child mental illness. The definition of positive adaptation was specific to each culture and was determined by community members and professionals. Interview data revealed a set of seven tensions which were present in each culture. According to Ungar et al. (2004), "Resilient youth find a way to resolve all seven tensions simultaneously according to the strengths and resources available to the youth individually, within their family, community, and culture" (p. 294). The results suggest that having a strong sense of purpose within the context of one's culture aids in the navigation of these tensions.

Sense of purpose has been assessed using qualitative (Dearden, 2004; Hammond, 2004; Ungar, 2007) and quantitative methods (Bracke, 2001; Dearden, 2004; Demar, 1997). Researchers using qualitative methods to assess sense of purpose typically utilize interviews and surveys. Quantitatively sense of purpose has been assessed using rating scales. Because sense of purpose is often related to "healthy expectancies, goal-

directedness, success orientation, achievement motivation, educational aspirations, persistence...and a sense of confidence" (Bernard, 1991, p.5), researchers have utilized self-esteem and self-concept inventories as quantitative measures of sense of purpose (Bracke, 2001; Demar, 1997). For this study the Beck Self-Concept Inventory for Youth (BSCI-Y; Beck, et al., 2004) was used a measure of sense of purpose. This instrument is described in detail in chapter three.

A search for instruments to measure sense of purpose for children resulted in the discovery of one self-esteem inventory, the Children's Inventory of Self-Esteem (CISE), which provides a purpose scale score as a component of the total self-esteem score. According to a review of the inventory, a significant adult within the child's life completes the assessment and the self-esteem and related scales scores are inferred from the child's behavior (Farrell & Johnson, 2003). The review indicates that the CISE has "value as a clinical tool for discussion of a child's self-esteem in relation to defensive and aggressive behaviors" (p.110), but that one should take caution when using the CISE for other applications. No other measures of sense of purpose for children were found.

Creativity

Creativity is another component of the Resilient Force construct. Richardson's (2002) second postulate specifically identified creativity as an actuating source of strength, as he suggests that the source of resilience is within one's soul and the soul encompasses spirit/creativity. Additionally, many researchers and theorists have identified creativity as an important element in helping individuals to overcome adversity

(Bogar & Hulse-Killacky; 2006; Buckner, et al., 2003; Garmezy, 1979; Grossman, Sorsoli, & Kia-Keating, 2006; Hammond, 2004; Werner & Smith, 2001; Wolin & Wolin, 1993). However, there are numerous approaches toward studying creativity and thus, there are many definitions of creativity. Piirto (2004) has identified several ways in which researchers approach understanding creativity. These approaches are mystical, pragmatic, psychodynamic, psychometric, cognitive, social-personality, and confluence. Thus, the definition of creativity and approach toward understanding creativity may differ from theorist to theorist and across studies.

A close examination of the resilience literature exemplifies the differences in the ways in which creativity is understood. Garmezy (1979) groups creativity with social cognition, achievement orientation, and internal locus of control to form an overarching construct of cognitive agency. In a 2003 study of resilient youth living in poverty, Buckner and his colleagues share Garmezy's cognitive view of creativity. Buckner et al. identify creativity as a protective factor because it contributes to mental flexibility and problem solving. Other theorists have suggested that creativity is important for resilience as it provides a positive means of channeling emotional pain and anger (de Souza, 2006; Wolin & Wolin, 1993). Approaching creativity from this perspective, Bogar and Hulse-Killacky (2006) found that creativity provided a safe emotional outlet for female survivors of childhood sexual abuse. Similarly, Grossman, Sorsoli, and Kia-Keating (2006) found that creative expression helped male survivors of childhood sexual abuse cope with the trauma associated with their experiences. Still other resilience researchers identify creativity as means of defining oneself. For example, Hammond (2004) suggests

that creativity is especially important for developing a sense of identity and a strong sense of self.

Because there are numerous ways of understanding creativity, there are a several ways in which creativity has been assessed. According to Davis (2004), there are “three more-or-less accepted strategies for evaluating creative potential” (p. 30). These are inventories of creative personality characteristics, inventories of creative activities, and tests of divergent thinking. Within the framework of these three strategies there are a variety of creativity assessments including tests of divergent production, behavior checklists, personality questionnaires, performance assessments, and talent assessments (Piiro, 2004).

A search of creativity assessments for elementary school aged children resulted in tests of divergent production and behavior checklists. Behavior checklists require the child’s teacher to complete the assessment; thus, these types of assessments are limited as the teacher may not be aware of the child’s creative behavior outside of school (Piiro, 2004). However, various assessments have been used to assess creativity in older children and adults. Some of these are summarized in the following subsections.

Khatena-Torrance Creative Perception Inventory; (KTCPI; Torrence & Khatena, 1998). The KTCPI was developed as a measure of creative personality and is appropriate for individuals age 10 and older. The assessment generates 11 scale scores which are acceptance of authority, self-confidence, inquisitiveness, awareness of others, disciplined imagination, environmental sensitivity, initiative, self-strength, intellectuality,

individuality, and artistry. The KTCPI is a self-report instrument comprised of two subtests. These are What Kind of Person are You? (WKOPAY?) and Something about Myself (SAM). The WKOPAY? presents the examinee with a series of paired statements which describe personality characteristics. From each pair of statements the examinee identifies which most closely resembles him or her by placing a check next to that statement. The SAM subtest presents the examinee with a list of statements and the examinee places a check next to each statement that is descriptive of him or her. The entire instrument takes approximately 20 minutes to complete.

The development of the WKOPAY? subtest is based on the notion that one's creativity is reflected in the way in which he or she behaves. Thus, the paired statements reflect creative and noncreative ways of behaving. The SAM assesses creative ways of thinking, as the statements reflect personality characteristics associated with ways of thinking and thinking strategies. Although, the instruments were designed to assess creativity, the KTCPI manual provides only a vague definition of the construct of creativity (Callahan, 2005). Thus, the instrument does not discriminate different types of creativity.

Manchester Personality Questionnaire (MPQ; CIM Test Publishers, 1996). The MPQ is an assessment for adults which was designed as an occupational personality test. The focus of the assessment is on traits associated with creative and innovative behavior. The assessment provides scores for 14 dimensions. These are creativity, achievement, agreeableness, extroversion, resilience, originality, rule consciousness, openness to

change, assertiveness, social confidence, empathy, communicativeness, independence, rationality, competitiveness, conscientiousness, perfectionism, decisiveness, apprehension, radicalness, and response style. Each dimension is assessed using 8 Likert-type items which present statements associated with personality characteristics. The examinees mark each statement according to the Likert-type scale to represent how often they experience the thoughts and behaviors associated with the personality characteristics. The assessment can be completed in approximately 20 minutes.

A review of the MPQ suggests that a strength of the MPQ is that it is more oriented toward the measurement of creativity than many other personality assessments. The reviewer supports the use of the MPQ as an occupational personality assessment, but suggests that more research on validity is needed (Gebart Eaglemont, 1998). However, a second reviewer found the manual vague and confusing and does not recommend the MPQ (Isenhardt, 1998).

Torrance Test of Creative Thinking (TTCT; Torrance, 1990). The TTCT is a test of divergent production, which was designed to identify and evaluate creative potential. The TTCT provides scores of verbal, figural, fluency, flexibility, originality, and elaboration. Examinees complete a verbal test and a figural test. The verbal test contains five activities which are ask and guess, product improvement, unusual uses, unusual questions, and just suppose. Examinees complete the verbal portion of the assessment by providing written responses to pictorial cues. The verbal portion of the assessment is scored for flexibility, fluency, and originality. The figural test consists of tasks which are

figure completion, figure construction, and repeated circles or lines. The figure completion task requires an individual to use incomplete figures to make a picture. Examinees are required to make a picture from a circular shape for the picture construction task. Examinees use the repeated circles or lines as a starting point to draw a picture for the last task. The entire assessment takes approximately 90 minutes to complete (Kim, 2006).

The KTCPI, MPQ, and TTCT are just a few of the many tests of creativity. A similarity among most creativity measurements is that they assess various aspects or dimensions of creativity. Bull and Davis (1982) suggest that “different forms of creative activity will require different patterns of creativity traits and abilities” (p. 7). Thus, one can infer that the characteristics of creative individuals may vary greatly from person to person.

Sense of Connectedness

Sense of purpose is another important component of the Resilient Force construct. Sense of connectedness refers to feeling that one can establish safe and appropriate interpersonal relationships. Interacting with one’s community and the ability to interact with others in an appropriate and prosocial manner motivates the source of resilience by creating a sense of attachment (Richardson, 2002). According to De Civita (2006), a sense of connectedness can be fostered by focusing on a child’s strengths, which allows for the development of openness and compassion (Hart & Waddell, 2003). This

compassion for others helps individuals look outside of themselves and develop empathy. When individuals develop empathy, they do not feel as isolated in their adversity (Hart, 1999).

Previous studies of resilience provide support for the inclusion of sense of connectedness within the Resilient Force construct (de Souza, 2006). For example, Aronowitz (2005) found that among at-risk youth living in poverty having a sense of connectedness led “to a sense of identity and the development of personal values, and the process of considering alternatives” (p. 205). Additionally, in a study of risk and protective factors regarding adolescent depression Denny, Clark, and Fleming (2004) discovered that students who felt a sense of connectedness were less likely to experience feelings of depression than their peers. Werner and Smith (1982; 1992; 2001) indicate that resilient individuals have a sense of connectedness as they are able to develop positive interpersonal relationships.

There are very few instruments designed to assess a sense of connectedness. A search for a measure of sense of connectedness for children resulted in the finding of one measure. This was a self-esteem inventory, Insight: Assessing and Developing Self-Esteem (Morris, 2002) which included a sense of belonging scale. This assessment is completed by an adult observer and the child. Thus, it was not an appropriate measure for this study. Sense of connectedness was assessed for this study using two dimensions of a multidimensional life satisfaction scale. This measurement is discussed in detail in chapter three.

Hope

Richardson (2002) described hope as an essential component of the motivating source of resilience; thus hope has been included in the Resilient Force construct. Like meaning purpose and truth, hope provides a sense of purpose and motivates an individual to pursue his or her goals (Bernard, 1991). Hope aids in resilience as it is linked to survival and allows individuals to overcome stress. Hopeful individuals are able to look toward the future. This concept of being optimistic about the future aids in crisis resolution because there is a reason for overcoming adversity (Snyder et al., 1997; Snyder, Ritschel, Rand, & Berg, 2006; Turner, 2005). Hope has been likened to autonomy as it gives an individual a sense of control over his or her life (Bernard, 1991).

Many researchers have noted that having a sense of hope fortifies an individual's capacity to be resilient. For instance, Alvord and Grados (2005) suggest that hopeful individuals tend to assertively respond to adversity because they feel that they have the ability to make an impact on their environment or situation. The notion that hope leads to action is further supported by a study conducted by Everall, Altrows, and Paulson (2006) of resilience in suicidal female adolescents. Everall and her colleagues found that when the study participants began to feel hopeful they also began to exhibit goal-directed behavior. Additionally, Snyder and her colleagues (1997) found that hope was a robust predictor of positive coping and adjustment, as hope allows individuals to actively participate in their lives rather than to be passive observers.

The hope assessment utilized for this study was the only instrument this researcher could find for assessing hope in children. The Children's Hope Scale (Snyder, et al., 1997) is described in detail in chapter three.

Summary of the Resilient Force Construct

The philosophy of the third wave posits that resilience is a motivational force within all individuals and drives them toward self-actualization. The source of the motivational force is unknown. The Resilient Force construct was created as a possible explanation of this motivational force. A review of literature provided a theoretical basis for the inclusion of sense of purpose, sense of connectedness, creativity, and hope within the Resilient Force construct. Additionally, previous studies of resilience support the notion that these concepts aid individuals in overcoming adversity. Alternative measures of each of these concepts were also presented.

Assessment of Resilience

Researchers studying resilient qualities, the process of resilience, or resilience as a motivational force, must first identify individuals who display a resilient pattern characterized by positive adaptation in the context of adversity. According to Masten and Powell (2003), classifying a person as having a resilient pattern “requires *two fundamental judgments*: (1) that a person is doing okay and (2) that there is now or has been significant risk or adversity to overcome” (p. 4). Due to the subjectivity of these judgments, researchers have differing opinions concerning the criteria one should use to determine the degree to which a person is doing okay or has demonstrated positive

adaptation. Additionally, researchers have assessed adaptation with regard to numerous risk factors and stressors (Bogar & Hulse-Killacky, 2006; Brooks, 1994; Masten & Powell; Mendez, Fantuzzo, & Cicchetti, 2002; O'Donnell et al., 2002; Sugland, Zaslow, & Nord, 1993; Tedeschi & Kilmer, 2005).

Assessment of Stress, Risk, and Adversity

Risk factors are adverse circumstances or stressors which have been associated with an increase in an individual's risk of maladaptive development. In studies of resilience in children, researchers generally operationalize adversity in one of two ways. One of these ways is to identify the number of stressors the child has experienced in the recent past (Fergus & Zimmerman, 2005). Buckner et al. (2003) illustrate this approach, termed the "life stressors" method in their study of resilient youth living in poverty. The resilient youth study participants received a questionnaire which listed 40 stressors. Examples of stressors included exposure to violence, death of a friend or parent, serious illness, and parental arrest or incarceration. Buckner et al. asked the study participants to identify the stressors the participants had experienced within the past year and rate the stressfulness of the identified stressors. The level of risk and adversity of each participant was then quantified by tallying the child's stressors.

Due to the empirical nature and pragmatic value of the life stressors method, many researchers find it intuitively appealing; however, there has been some debate regarding the direction of causality between life stressors and maladjustment. While it is hypothesized that life stressors lead to maladjustment, it is quite possible that life

stressors are rather an expression of maladjustment (Sugland et al., 1993). For instance, poverty rates are higher among maladjusted individuals and impoverished neighborhoods have been associated with higher crime rates. Thus, a person said to be non-resilient indicating recent exposure to life stressors of poverty and crime may be poorly adjusted because of these stressors. Conversely, an individual's exposure to poverty and crime may be a manifestation of his or her maladjustment. In other words, a poorly adjusted individual may place him or herself in situations that would otherwise be considered a risk factor.

The cohort method is the second manner in which researchers have operationalized adversity. Researchers assessing risk using the cohort method examine groups of individuals exposed to the same stressor. Much of the research associated with Project Competence examined adjustment among cohorts of individuals exposed to the same type of adversity. Examples of cohort groups from the Project Competence studies include: children whose parents suffer from mental illness, children living in homeless shelters, and children living in extreme poverty (Dean, 1973; Garmezy et al., 1984; Garmezy & Rutter, 1988; Rolf et al., 1990; Masten, 2001; Masten & Powell, 2003). Because this method treats individuals faced with similar stressors as homogenous groups, it is limited by its failure to account for previous stressors in the life of the individual and variations in the "stressfulness" of the event to the particular individual (Garmezy et al., 1984; Luthar & Zelazo, 2003; Sugland et al., 1993)., Luthar and Zelazo (2003), however, suggests that these limitations do not "represent a fatal flaw for either risk or resilience research... [as] there is still much to be learned from studies in which

the life adversity is treated as a global index connoting high statistical odds of maladjustment” (p. 512). In other words, while there are limitations, the cohort method is a valid approach to examining the relationship between risk and resiliency.

For the current study risk is operationalized using the cohort method. The cohort chosen for this study are children in grades third through fifth from low socioeconomic backgrounds. Researchers have identified several negative outcomes linked to low socioeconomic status (SES) including educational underachievement and social, emotional and behavioral problems (Owens & Shaw, 2003). Research has established that exposure to multiple risk factors as opposed to a single specific risk factor increases the probability of maladjustment (Ferguson & Horwood, 2003; Rutter, 1979). It has been suggested that low-SES is a strong predictor of negative outcomes because, although identified as a single risk factor, low-SES is associated with a cluster of related risks including a lack of parental supervision, few community resources, low parental education, low parental employment level, parental psychopathology, single parentness, and exposure to negative life events such as crime and poor nutrition (Fergus & Zimmerman, 2005; Mash & Barkley, 2003; Owens & Shaw, 2003). Low-SES has been associated with lower levels of parental warmth and less access to cognitive stimulation (Kim-Cohen et al., 2004).

Criteria Used to Assess Positive Adaptation

When studying resilience, once risk has been established, the second judgment researchers make is the degree to which a person is doing okay or shows positive

adaptation (Masten & Powell, 2003). While some investigators define positive adaptation in children in terms of internal emotional states, most of the research in the area of resilience has focused on examining external behavioral characteristics (Baruth & Carroll, 2002; Gothelf, Apter, & van Praag, 1997). Researchers typically infer resilience when a child demonstrates social competence characterized by a consistent pattern of meeting major societal expectations appropriate for children of his or her age and cultural group (Masten, 2001). For example, a toddler might be considered well-adapted if he or she demonstrates secure attachments to caregivers, school-aged children are likely to be assessed according to success in school, and an adolescent might be regarded as socially competent if he or she is doing well in school, and has positive relationships with his or her parents and peers (Luthar & Zelazo, 2003). Social competence is generally assessed through evaluations from parents and teachers, as well as documentation of the child's grades and behavioral records in school (Mendez, Fantuzzo, & Cicchetti, 2002).

A limitation to inferring resilience through the assessment of social competence is the assumption that positive adaptation is comprised of only those factors observable to others. Therefore, the social competence approach does not account for internal indicators of maladjustment. Some children exposed to adversity may exhibit social competence, but suffer from internalizing symptoms such as depression and anxiety. Luthar (1991) suggests that "it is possible that 'resilient' children's reactions to their stressful experiences are primarily of an internalizing nature" (p. 602). This notion is based on two empirically based findings: 1) at higher levels of development poor adaptation is expressed more frequently in terms of internalizing disorders rather than

externalizing behavior and 2) due to nature of social competence (functioning at or above developmentally appropriate levels), children deemed well-adjusted based on social competence criteria are likely to be at high-developmental levels (Luthar).

Operationalizing positive adaptation using the social competence approach is an appropriate method for assessing an individual's general level of functioning, but it gives little insight into the internal emotional state of the individual. Thus, it is imperative that more research be conducted in this area.

Summary of Assessment of Resilience

An individual is classified as having a resilient pattern if he or she demonstrates positive adaptation in the context of stress, risk, or adversity. Thus, researchers studying resilience must define and assess risk as well as positive adaptation. Risk status is generally assessed in one of two ways, which are the life stressors method and the cohort method. Researchers using the life stressors method tally the participant's number of recent stressors to identify the participant's level of risk. Whereas, researchers utilizing the cohort method examine groups of individuals exposed to the same type of stressor. Once risk has been established positive adaptation must be evaluated. While most researchers assess positive adaptation by examining one competence relative to societal norms and expectations, some researchers assess positive adaptation based on internal factors such as emotional states.

Emotionality Construct

The Emotionality construct, comprised of perceptions of anger, anxiety, and disruptive behavior, was created as a means of assessing positive adaptation for this study. Feelings of depression, anger, and anxiety are interwoven (Mash & Barkley, 2003). Anger, especially in males, is often depression expressed outwardly. Likewise, anxiety frequently coexists with depression; this is especially true for females. Disruptive behavior was included in this construct, as it is often indicative of negative emotions not otherwise expressed (Mash & Barley).

Garmezy et al. (1979) explored the relationship between risk factors and depression and anger in children. He and his colleagues noted that children at risk due to poverty, parental mental illness, and environmental instability were more likely to experience negative emotions than were their peers who were not considered at risk. Furthermore, Garmezy et al. discovered that children who experienced feelings of anger and depression were less likely to demonstrate social competence than were their peers. This finding supports the inclusion of disruptive behavior within the Resilient Force construct, as it demonstrates the relationship between internalizing and externalizing behaviors.

For this study, the anger, anxiety, depression, and disruptive behavior scales of the Beck Youth Inventory, second edition (BYI-II; Beck, et al., 2005) were used as measures of anger, anxiety, depression, and disruptive behavior. The Beck scales assess the frequency of a child's perceived experiences of anger, anxiety, depression and

disruptive behavior. While these negative emotions can serve as an impetus for personal growth, individuals who are consumed with these emotions are not engaged in resilience. Thus, the Beck scales are an appropriate measure of the concepts associated with the Emotionality construct.

Summary

As the way in which resilience has evolved over the past several years this chapter begins with an historical overview of resilience research. Research from the early researchers such as Werner and Smith, Garmezy, and Rutter is presented. The second section presents the three waves of resiliency. A discussion of risk and protective factors is followed by a description of resilience as a process and the current conceptualization of resilience as a motivational force is addressed. The third section provides theoretical and empirical support for the Resilient Force construct. The fourth section examines the ways in which the concepts of risk and resilience have been assessed. Finally, I provide a discussion of the Emotionality construct, which is used to assess positive adaptation for this study.

CHAPTER III

METHOD

This study examined the relationship between two theoretical constructs, Emotionality and Resilient Force, in third, fourth, and fifth grade children. To investigate Emotionality and Resilient Force eight variables were studied. The variables used to measure the Emotionality construct were scores obtained on anger, anxiety, depression, and disruptive behavior scales. Resilient Force was assessed by examining measures of sense of purpose, sense of connectedness, creativity, and hope. This chapter describes the research participants, the research instruments, the data collection procedure, and the statistical analyses employed to answer the research questions.

This study was conducted in conjunction with Project CREATES, a large grant-funded research project. Project CREATES: Community Resources Encouraging All Teachers to Educate with Spirit (Montgomery, Otto, & Hull, 2007) conducted research on methods designed to transform teaching and learning through the implementation of arts-infused curriculum. Over the five-year course of the project, the research has been conducted in four elementary schools in a midwestern city.

Participants

Participants in this study included third, fourth, and fifth grade students from two of the Project CREATES elementary schools, Dunne and Carde (pseudonyms). Because numerous studies have identified poverty as a risk factor for children (Alvord & Grados, 2005; Bennett et al., 2005; Eisenberg et al., 2004; Kim-Cohen et al., 2004), the schools were chosen based on having a high percentage of students from low socioeconomic status (SES) backgrounds, as determined by free and reduced lunch eligibility. The schools serve students in grades pre-kindergarten through fifth. Dunne and Carde are roughly the same size with 290 and 261 students, respectively. Table 1 presents the student demographic data of the two participating schools at the end of the 2006 school year.

Table 1

Student Demographic Information

Ethnicity	Percentage of students in grades pre-k through 5th	
	Dunne	Carde
American Indian	15.5%	19.5%
African American	26.6%	15.3%
Asian	2.1%	.4%
Hispanic	9%	6.1%
White	46.9%	58.6%
Free and Reduced Lunch		
Free	78.9%	52.8%
Reduced	19%	22%

A modification of the existing Project CREATES IRB was submitted to the Institutional Review Board at Oklahoma State University to accommodate the measures

and procedures for the present study. After permission to conduct this study was obtained from the review board (Appendix A), I met with the principal of each school. During these meetings, the purpose of the study and the assessment instruments were described. As some of the assessments, indicate that a child may be experiencing emotional difficulties, it was decided that the school counselors would be informed of students whose t-score was above the 92nd percentile on the scales showing negative emotionality. After consent was obtained from the principals for their students to participate in the study during the school day, administration dates and times were arranged. All third, fourth, and fifth grade students from both of the schools were invited to participate in the study. Parental consent forms were sent home with the students. One hundred and sixty-seven students agreed to participate and were available during the times the assessments were administered. Table 2 provides a summary of the gender, grade, and school affiliation of the participants.

Table 2

Gender, Grade, and School Affiliation of Participants

		Grade			
		3 rd	4 th	5 th	Total
Carde	Male	17	12	6	35
	Female	14	9	5	28
Dunne	Male	18	12	18	48
	Female	17	16	23	56
Total		66	49	52	167

Note. Carde has two third and fourth grade classes and one fifth grade class. Dunne has

two third, fourth, and fifth grade classes, as well as a gifted class of third, fourth, and fifth graders and a gifted class including third graders.

Instrumentation

A total of four assessment instruments were used to measure the variables identified in this study. The participants were administered the five inventories which compose the Beck Youth Inventories, Second Edition (Beck et al., 2005); two of the five scales associated with the Multidimensional Students' Life Satisfaction Scale (Huebner, 2001a); the Goff-Torrance Creativity Indicator (Goff, 2005); and the Children's Hope Scale (Snyder et al., 1997). The following two paragraphs identify which of these assessment instruments were used to measure each theoretical construct.

The Emotionality construct was examined using four of the five scales of The Beck Youth Inventories, Second Edition (Beck et al., 2005; the fifth scale was used to examine the Resilient Force construct, as discussed in the next paragraph). The Beck scales used to examine this construct were the Beck Anger Inventory for Youth, the Beck Anxiety Inventory for Youth, the Beck Depression Inventory for Youth, and the Beck Disruptive Behavior Inventory for Youth. These scales were used to assess anger, anxiety, depression, and disruptive behavior, correspondingly. The disruptive behavior scale was included as a measurement of the Emotionality construct, as some children have difficulty verbally expressing feelings of anger, anxiety, and depression and may externalize these feelings through disruptive behavior (Mash & Barkley, 2003). Therefore, including the disruptive behavior scale may provide a measure of the students' feelings of painful emotions not otherwise expressed.

The Resilient Force construct was measured using four instruments. A composite of two scales from the Multidimensional Students' Life Satisfaction Scale (Huebner, 2001a), satisfaction with friends and satisfaction with family, was used to assess sense of connectedness. Creativity and hope were evaluated using the Goff-Torrance Creativity Indicator (Goff, 2005) and the Children's Hope Scale (Snyder, et al., 1997), respectfully. The fifth scale of The Beck Youth Inventories, Second Edition, the self-concept scale was used as a measure of sense of purpose.

The Beck Youth Inventories, Second Edition

Beck et al. (2005) developed the Beck Youth Inventories, Second Edition (BYI-II) inventories based on initial pilot studies, community samples, and standardization samples drawn from the community samples. The pilot study participants were children, ages 7-14, which were in therapy in numerous clinical settings, including partial hospitalization facilities, outpatient settings, and private practices. Statements from these children regarding their subjective experiences of emotional states constituted initial item design. Items were selected based on the distribution of the children's statements and the ability of an item to differentiate clinical samples from non-clinical samples. The pilot studies led to the development of an initial 25-item version of the inventories. Research assistants and trained staff administered this initial version to a community sample consisting of 1,100 children ages, 7-14, from four geographic regions in the United States. Based on the responses from the community sample five items were eliminated from each inventory resulting in the final 20-item BYI-II (Beck et al.).

Eight hundred children were chosen from the community sample to compose the standardization sample. To ensure that each selected demographic variable, race and parent education level were proportionately represented, the standardization sample was stratified. As the purpose of the standardization sample was to generate age by sex *T* score norms and descriptive cumulative percentages, it was important that the two age groups, 7-10 and 11-14, and each sex had equal representation. Therefore, Beck et al. selected two hundred children from each of the four groups to match the U.S. census by race and parental education level to compose the standardization sample. Approximately 400 children were chosen from the community sample to participate in concurrent validity studies (Beck et al).

The Inventories

The Beck Youth Inventories, Second Edition (BYI-II) consists of five self-report inventories, which include the Beck Anger Inventory for Youth (BANI-Y), the Beck Anxiety Inventory for Youth (BAI-Y), the Beck Depression Inventory for Youth (BDI-Y), the Beck Disruptive Behavior Inventory for Youth (BDBI-Y), and the Beck Self-Concept Inventory for Youth (BSCI-Y). These inventories assess anger, anxiety, depression, disruptive behavior, and self-concept, respectively. Each scale consists of 20 statements that describe thoughts, feelings and behaviors associated with the assessment focus of the particular inventory.

Beck Anger Inventory for Youth. The BANI-Y items assess the child's perceptions of mistreatment, emotional and physical feelings related to anger, and negative thoughts

about others. Although angry feelings may be present without corresponding aggressive behaviors, many anger assessments designed for use with children, such as The Children's Hostility Inventory (Kazdin, Rodgers, Colbus, & Siegel, 1987) assess internalizing and externalizing behaviors simultaneously (Beck, et al., 2005). The BANI-Y differs from these in that it assesses the child's subjective experience of thoughts and feelings associated with anger.

Beck Disruptive Behavior Inventory for Youth. The BDBI-Y includes items that identify externalizing behaviors associated with oppositionality and conduct problems. While several multidimensional self-report measures including the Minnesota Multiphasic Personality Inventory-A (MMPI-A; Butcher, et al., 1992), the Youth Self-Report (YSR; Achenbach & Edelbrock, 2001), and the Trauma Symptom Checklist for Children (TSCC; Briere, 1996), assess a variety of emotional and behavioral problems in children and adolescents, they lack the brevity of the BDBI-Y (Beck, et al., 2005) The ability of the BDBI-Y to specifically measure externalizing behaviors apart from the feelings and cognitions associated with anger is another way in which the BDBI-Y differs from many other assessments.

Beck Anxiety Inventory for Youth. The BAI-Y items are related to worry and fear and the subsequent physical symptoms. Specific worries and fears about getting hurt, going to school, and physical illness are included in this inventory. Unlike many other the BAI-Y is able to discriminate anxiety and other emotional disturbances (Beck et al., 2005). Many instruments also have difficulty differentiating anxious feelings from

feelings and behaviors associated with Attention-Deficit/Hyperactivity Disorder related symptoms. The BAI-Y is able to isolate and assess the construct of anxiety.

Beck Depression Inventory for Youth. Designed to identify signs of depression, the BDI-Y is composed of items which reflect negative thoughts about one's self, feelings of sadness, and the physical indications of depression. Many other depression assessments for use with children, such as the Children's Depression Inventory (CDI; Kovacs, 1992), the Reynolds Child Depression Scale (RCDS; Reynolds, 1989), and the Children's Depression Scale (CDS; Lang & Tisher, 1978) include items that are indicative of both anxiety and depression (Beck et al., 2005). Therefore, they are unable to distinguish characteristics attributed to anxiety from characteristics attributed to depression. However, the BDI-Y does differentiate depression from anxiety, as the statements were carefully selected to reveal signs of depression and not anxiety.

Beck Self-Concept Inventory for Youth. The BSCI-Y explores an individual's perceptions regarding his or her potential, competence and self-worth. Self-concept has been researched as a one-dimensional measure in an attempt to assess an individual's global self-perception. Self-concept has also been researched as a multidimensional construct used to assess perceived competence in specific domains. The BSCI-Y is designed to measure one's global sense of self. It differs from other one-dimensional measures of self-concept such as The Self-Esteem Inventory (SEI; Coopersmith, 1989) and the Peirs-Harris Children's Self-Concept Scale (PHSCS; Piers, 1996; 2002) in its

brevity and ease of administration (Beck et al., 2005) Sample items include: “People think I’m good at things;” “I am a good thinker;” “People want to be with me.”

In resilience literature a sense of purpose refers to a “sense of usefulness,” (Howard, Dryden, & Johnson, 1999, p. 312) and self-worth (Bernard, 1991). Children with a strong sense of purpose feel competent (Bernard). For this study, the Beck Self-Concept Inventory for Youth was used as a measure of sense of purpose, as the Beck self-concept scale assesses a child’s perception of his or her self-worth and competence (Beck et al, 2005).

Administration and Scoring

The BYI-II inventories may be used alone or in combination to assess a child’s subjective experience of anger, anxiety, depression, disruptive behavior, and self-concept. Designed for children and adolescents between the ages of 7 and 18, each scale is written at the 2nd grade reading level and may be administered individually or in groups. The examinee marks how often he or she thinks, feels, or behaves in the manner illustrated by the statement on a 4 point Likert-type-type scale ranging from never to always. Each inventory takes approximately five to ten minutes to complete. Therefore, an hour should be allotted when administering all five inventories to a group. The inventories may be read to the group and group members are encouraged to ask questions to ensure that participants understand all of the items.

Each of the 20 statements on a single inventory receives a score of 0, 1, 2, or 3, which corresponds to the test takers mark on the Likert-type-type scale. These item scores are added to produce the total raw score for each inventory. Thus, the possible

range of scores per inventory is 0-60. The raw scores are converted to standardized *T* scores. The manual provides these for six normative groups based on age range and gender. The *T* scores specify the degree of severity of the assessed construct. For interpretation purposes higher *T* scores on the BANI-Y, BAI-Y, BDI-Y, and BDBI-Y, indicate higher levels of distress reported by the individual. However, the opposite is true for the BSCI-Y, as higher *T* scores signify a more positive self-concept and lower *T* scores represent a less positive self-concept.

Reliability

The five BYI-II inventories report high internal consistency for the age groups represented in this study (Beck et al., 2005). For children ages 7-10 the internal consistency reliability scores are as follows: depression (females, $\alpha = .91$; males, $.90$), anxiety (females, $\alpha = .89$; males, $\alpha = .89$), anger (females, $\alpha = .87$; males, $\alpha = .89$), disruptive behavior (females, $\alpha = .86$; males, $\alpha = .87$), and self-concept (females, $\alpha = .89$; males, $\alpha = .91$). For children ages 11-14 the internal consistency reliability scores are depression (females, $\alpha = .91$; males, $.92$), anxiety (females, $\alpha = .89$; males, $\alpha = .91$), anger (females, $\alpha = .91$; males, $\alpha = .92$), disruptive behavior (females, $\alpha = .86$; males, $\alpha = .90$), and self-concept (females, $\alpha = .91$; males, $\alpha = .89$). Corrected test-retest reliabilities for the inventories range from $.74$ to $.90$ for children ages 7 to 10 and from $.84$ to $.93$ for children ages 11-14. As the reliability scores fell within a range of good to high reliability, the items associated with a given scale appear to be measuring a similar construct.

Internal consistency reliability analyses based on the scores on the BYI-II scales for the participants sampled for the current study yielded similar results (BSCI-Y, $\alpha = .88$; BAI-Y, $\alpha = .87$; BANI-Y, $\alpha = .90$; BDI-Y, $\alpha = .89$; BDBI-Y, $\alpha = .90$). The moderately high to high internal consistency reliability findings suggest that each of the scores on each of the scales appeared to measure a similar construct.

Validity

The convergent validity of the BYI-II when used with students ranging from 7 to 10 years old was examined through comparison with several other instruments. The Children's Depression Inventory, (Kovacs, 1992) was utilized to provide evidence of validity for the BDI-Y with a moderate resulting correlation ($r = .72$). Validity of the BAI-Y was assessed with respect to the Revised Children's Manifest Anxiety Scale (RCMAS; Reynolds & Richmond, 1985). BANI-Y and the RCMAS are moderately correlated ($r = .70$) suggesting convergent validity for the BAI-Y. The moderate correlations suggest that the BYI-II is an adequate measure of the constructs associated with the scales.

Multidimensional Students' Life Satisfaction Scale

The Multidimensional Students' Life Satisfaction Scale (MSLSS; Huebner, 2001a) is a measurement designed to assess a child's global estimate of life satisfaction, as well as, domain specific estimates of satisfaction. The scale is comprised of 40 statements reflecting opinions about one's life satisfaction in one of five areas (Huebner, 2001b). The domains assessed are family, friends, school, living environment, and self. The students participating in the current study completed the satisfaction with friends

scale and the satisfaction with family scale. Richardson (2002) suggests that the ability to develop connections with others and the ability to give and receive love is an essential component of the Resilient Force. According to Hart and Waddell (2003) connections refer to emotionally safe and appropriate interpersonal relationships. Therefore the composite score of the friends and family scales was used to assess the sense of connectedness component of the Resilient Force construct. Sample items from domains assessed include: “I enjoy being at home with my family” and “My friends will help me if I need it.”

Administration and Scoring

The MSLSS can be administered individually or in groups. It is recommended that the statements be read aloud to children in grades third through fifth. To complete the assessment students mark their degree of agreement or disagreement with the statement on a 4 point Likert-type scale ranging from never to always. Students are encouraged to ask questions and examiners should monitor students closely to ensure that they complete the assessment appropriately.

Each of the 9 statements on the friends scale and 7 statements on the family scale receives a score of 1, 2, 3, or 4 which corresponds to the test takers mark on the Likert-type scale. Thus the range of possible scores on the friends scale is 9 to 36 and the range of possible scores on the family scale is 7 to 28. Ten of the items are negatively-keyed and must be reversed scored. Because the number of statements per domain is unequal, raw scores for each domain are obtained by dividing the summed item scores by the number of items within the specific domain. The composite score used in this study was

generated by adding the raw domain scores of the friends and family scales.

Reliability

In a 1994 study, Huebner found good internal consistency reliability for the friends and family scales, as the Cronbach's alpha coefficients were .82 and .85, respectively. Internal consistency reliability analyses based on the scores on the friends and family scales collected from the participants sampled for the current study yielded similar results (friends, $\alpha = .86$; family, $\alpha = .80$). The Cronbach's alpha coefficient for the combined friends and family scales as a measure of the sense of connectedness construct was .84. The fairly high internal consistency reliability findings suggest that the statements of the combined friends and family scales of the MSLSS provide a measurement of a similar construct.

Validity

Exploratory factor analysis has supported the five dimensions assessed by the MSLSS. Concurrent and divergent validity have been examined through hypothesized correlations with other self-report indices of well-being. However, Huebner (2001a) notes that future research is needed for further validation and determination of the assessments range of application.

Goff-Torrance Creativity Identifier

The Goff-Torrance Creativity Identifier (GTCI; Goff, 2005) is a measure of creativity which emphasizes divergent production. The GTCI is patterned after the

Abbreviated Torrance Test for Adults (ATTA; Goff & Torrance, 2002), which is a condensed version of the much longer Torrance Test of Creative Thinking (Torrance, 1990). The GTCI measures several elements of creativity including flexibility, fluency, originality, and elaboration.

The GTCI can be administered in an individual or group setting. The total administration time is approximately 15 minutes. Examinees complete 3 pencil and paper tasks and are allowed three minutes to complete each task. For the first task a scenario is identified and the students are asked to list as many potential problems associated with the scenario as possible. The second and third tasks involve picture completion activities. One point is given for each indicator of flexibility, fluency, originality and elaboration for each task.

The GTCI psychometrics are based on the ATTA psychometrics. The psychometric properties associated with the ATTA suggest that it is a reliable and valid instrument for the assessment of divergent production. However, after an extensive review of creativity literature and assessments for children I found no other creativity assessments appropriate for this study. Therefore, the GTCI was deemed the only choice for measuring the creativity element of the Resilient Force construct.

Internal consistency reliability was calculated for the participants sampled for this study using the Cronbach's alpha statistic. The analysis indicated that there was a moderate degree of intercorrelation among the scores composing the total GTCI score ($\alpha = .68$). This moderate internal consistency reliability suggests that the subtests of the GTCI provide an adequate measurement of a similar construct.

The Children's Hope Scale

The Children's Hope Scale is a six item scale designed to measure hopeful thinking in children. For the purposes of this scale, hope is defined as an individual's beliefs about his or her "capabilities to produce workable routes to goals... [and] the self-related beliefs about initiating and sustaining movement toward those goals (Snyder et al., 1997) p. 401. Thus, the scale assesses the child's perception of his or her ability to find ways in which to meet his or her goals and the child's perception of his or her ability to move toward accomplishing these goals.

Scale Development

To develop the Children's Hope Scale, Snyder, et al. (1997) selected 12 items reflecting beliefs about one's ability to develop and attain goals. Children ages 8 to 16 participating in the pilot study read the statements and provided feedback to the researchers. Based on this feedback the statements were rewritten in simpler language to make the meanings of the statements easier to understand. The first draft of the Children's Hope Scale consisted of the revised statements.

The initial 12-item scale was given to 372 children ages 9 to 14. Factor analysis indicated that three of the statements from each set of six items evidenced weak factor loadings and were discarded. The remaining six items were factor analyzed resulting in a two factor solution with loadings on the first factor ranging from .64 to .85 and loadings on the second factor ranging from .52 to .85. The total variance accounted for by the two factors was 58.4% with the first factor accounting for 32.5% and the second accounting for 25.9%. As the two factors accounted for a reasonable amount of variance, the six

items were retained and comprise the current version of the Children's Hope Scale (Snyder et al., 1997).

Administration and Scoring

The Children's Hope Scale may be administered individually or in groups. Examinees read each of the six statements and respond to each statement by indicating how often the statement applies to them on a six point Likert-type scale ranging from "none of the time" to "all of the time." The statements may be read aloud to younger children or children with reading difficulties.

The scoring of the scale is straightforward. Each item receives a score ranging from 1 to 6 which corresponds to the individual's response on the Likert-type scale with "none of the time" receiving a score of 1 and "all of the time" receiving 6 points. The total score equals the summed point values of each item. Thus, the range of possible scores on the assessment is 6 to 36.

Reliability

To obtain a measure of internal consistency the scale was given to six sample groups (Snyder et al., 1997). Cronbach's alpha coefficients for the sample populations ranged from .72 to .86. The reliability for the sample population in the current study was fair, as the Cronbach's alpha coefficient was .78. Test-retest reliabilities were assessed for two of the sample groups. Findings indicated significant test-retest correlations, $r(359) = .71, p < .001$ and $r(89) = .73, p < .001$. Standard deviation ranged from .12 to .24. The reliabilities suggest that the statements associated with the scale measure a similar

construct.

Validity

Snyder, et al. hypothesized that hope and perceived competence would be highly correlated, as beliefs about goal attainment would likely be related to one's beliefs about his or her competence. Thus, to obtain convergent validity scores on the Children's Hope Scale was compared with scores on the Self-Perception Profile for Children, which is used as a measure of a child's perceived competence in five domains. The two assessments were positively correlated with moderate to low correlation coefficients ranging from $r = .22, p < .01$ to $r = .59, p < .01$ (Snyder et al., 1997)

To assess divergent validity the researchers compared the Children's Hope Scale to the Child Depression Inventory (Kovacs, 1992) as it was hypothesized that feelings of hope and depression would be negatively correlated. The scores on the Children's Hope Scale were negatively correlated with correlations ranging from $r = -.48, p < .001$ to $r = -.27, p < .001$ (Snyder et al., 1997). The negative correlations provide evidence that scores on the Children's Hope Scale and the Child Depression Inventory diverge.

Summary

A total of four instruments were administered to third, fourth, and fifth grade students for this study. The Emotionality construct was assessed using four of the five scales of the BYI-II. The self-concept scale of the BYI-II, the friends and family scales of the MSLSS, the GTCI, and the Children's Hope Scale were used to assess the Resilient Force construct.

Procedure

The assessments were given to the students in two sessions approximately one week apart, as previously arranged with the school principals. The students completed the assessments in groups according to grade and homeroom teacher. The instruments were administered to four groups of students at Dunne and five groups of students at Carde. To control for order effect, the order in which the assessments were administered at each school differed. The students at Dunne completed the BANI-Y, the BAI-Y, the BDI-Y, the BDBI-Y, and the BSCI-Y during the first administration session. During the second session, the Dunne students completed the GTCI, the two scales of the MSLSS, and the Children's Hope Scale. The Carde students completed GTCI, MSLSS, and the Children's Hope Scale during the first session and the BANI-Y, the BAI-Y, the BDI-Y, the BDBI-Y, and the BSCI-Y during the second administration session.

Prior to completing the assessments, the students were informed that their participation was voluntary. They were also informed that some of the assessments identify feelings of anger, anxiety, and depression and that scores which indicated that the student may be feeling, especially sad, angry, or anxious would be reported to the school counselor. The BYI-II manual, as well as, the MSLSS manual suggested that the statements associated with the scales be read to young children; therefore, the BYI-II, MSLSS, and the Children's Hope Scale statements were read aloud to all of the students to ensure consistency. Many of the participants, however, were able to read the statements without help; therefore, those who wished to work ahead were encouraged to complete the inventories at their own pace. As the GTCI is a timed instrument, the

directions were read aloud to all students and the participants began and ended each task at the same time. After the administration of the assessments, the instruments were collected and stored in a secure location.

The students' school ID numbers were used to code the assessments, as I reported especially high scores on the BYI-II anger, anxiety, depression, and disruptive behavior scales to the school counselor; this allowed the school counselor to identify the students associated with the scores reported to her. The codes and the assessments were kept in different locations. With the exception of the GTCI, I scored all of the assessments with the assistance of an objective third party under my direct supervision. Project CREATES hired Dr. Kathy Goff to score the GTCI. I maintained the data base.

In order to identify scores above the 92nd percentile, the scores on the BAI-Y, BANI-Y, BDI-Y, and BDBI-Y were converted to t scores using charts provided in the BYI-II manual (Beck, et al., 2005). After identifying elevated scores, I met with the counselors and submitted a list of student ID numbers. I explained to the counselors that the scores were not diagnostic, but rather they may indicate that a child was having difficulties. I also provided the counselors with a list of community resources.

Data Analysis

The data were analyzed using SPSS 15.0. The raw scores associated with the assessments were used for the analysis. Descriptive statistics were run to assess the required statistical assumptions. The first and second research questions concern relationship between the variables within each construct; therefore, bivariate correlations were generated between the variables within the constructs to address the first two

questions. Canonical correlations analysis was employed to examine the third research question, which concerned the multivariate relationship between the Resilient Force and Emotionality constructs.

Summary

This chapter provided a detailed description of the research design and methodology utilized for this study. The first section described the participants. The participant section provided demographic information concerning the participants, the way in which the participants were selected, and the procedures regarding informed consent. The second section provided detailed information concerning the research instruments. The research procedures were outlined in the third section and the fourth section presented an overview of the statistical analysis.

CHAPTER IV

RESULTS

This chapter presents the results of this study. The first section provides an overview of the descriptive statistics as they relate to the required assumptions. This is followed by the response to the research questions.

Descriptive Statistics

The variables used in this study were scores obtained from the eight scales given to the students which were categorized into two variable sets. The variable sets represented two distinct theoretical constructs. A construct refers to a complex concept which is formed from a number of simpler concepts. As such, a theoretical construct is not directly measurable, but can be indirectly measured by examining the variables associated with the construct's elemental concepts (Vogt, 1999). The constructs investigated in this study were Resilient Force and Emotionality. The Resilient Force construct encompassed the concepts of creativity, sense of purpose, sense of connectedness, and hope; thus, scores obtained on measures of creativity, sense of purpose, sense of connectedness, and hope were the variables used to assess the Resilient Force construct. The variables used to measure the construct of Emotionality were scores obtained on the depression, anger, anxiety, and disruptive behavior scales.

As the statistical procedures employed to answer the questions posed in this study

are sensitive to outliers, each of the eight variables were examined for outliers by converting the raw scores obtained on each of the assessments to z-scores. Because the sample size was fairly large z-scores that fell outside of a range from +/- 3.50 were considered outliers (Stevens, 2002). Five of the 167 participants who completed all 8 of the measures had z-scores falling outside of the +/- 3.50 range on one or more of the variables. Thus, 162 cases were retained for analysis.

The statistical procedures chosen to analyze the data for this study rely on parametric statistics to evaluate the significance level of the statistical value resulting from the analysis. In order to evaluate how well the data met the required assumptions of the parametric statistical procedures used in this study, univariate descriptive statistics were generated for all of the variables (see table 3).

Table 3

Descriptive Statistics for Variables

Variable	Mean	SD	Min	Max	Range	Skew	Kurtosis
Purpose	42.97	8.62	18	58	0 - 60	-.50	-.27
Hope	26.56	5.45	11	36	0 - 36	-.23	-.73
Connectedness	6.52	.88	3.32	8	0 - 8	-.77	.419
Creativity	33.10	16.68	3	89	0 - ∞	.72	.458
Anxiety	17.05	10.69	0	58	0 - 60	.99	1.38
Depression	12.84	8.87	0	50	0 - 60	.79	.74
Anger	14.73	9.40	0	51	0 - 60	.84	1.12
Disruptive	5.69	4.98	0	21	0 - 60	.98	.29

N = 162

All statistical analyses, including parametric statistics assume sound measurement. Means and standard deviations can be assessed to determine if the data are generally as expected and that all data entries are within the designated range. While this does not ensure sound measurement, an examination of the descriptive statistics brings to light certain coding errors and potential problems with the sample population. For this study, the means of the anxiety, depression, anger, disruptive behavior, and sense of purpose scales, fall within the 45th to 55th percentile range when compared to the standardization sample identified by Beck et al. (2005). As the group means of the students sampled for this study fell within the expected range, it can be surmised that the scores obtained by the children in this study are fairly reflective of scores that would be obtained within the general population. The minimum and maximum statistics designated in table 3 indicate that all variables fall within the expected range.

The assumption of normal data distribution was assessed by examining the skewness and kurtosis statistics. Although each variable is slightly skewed, the skewness statistic for each variable is within the +/- 1.00 range indicating a symmetrical distribution (de Vaus, 2002). According to Stevens (2002), with the exception of platykurtic or flattened distributions which attenuate power, kurtosis has little effect on level of significance or power. An examination of the kurtosis statistics for the variables used in this study suggested that there were no platykurtic distributions.

Summary of Descriptive Statistics

The parametric assumptions relative to this study include sound measurement and normality. As the descriptive statistics revealed that the means and standard deviations

were as expected and that the minimum and maximum statistics denoted that no variable scores were outside of the expected range, sound measurement was assumed. An inspection of the skewness and kurtosis statistics indicated that the data distribution was symmetrical, thus, normality was assumed.

Response to the Research Questions

As the parametric assumptions relative to this study were met, the analyses of the research questions proceeded. Bivariate correlations were examined to answer the first and second questions. Canonical analysis was used to address the third question.

Question One: What are the relationships between the variables composing the theoretical Resilient Force construct, which are measures of sense of purpose, sense of connectedness, hope, and creativity?

To answer question one Pearson correlation coefficients (r) were generated between the variables within construct of Resilient Force. Correlation coefficients, which range between +1.00 and -1.00, indicate the strength and direction of the relationship between two variables. The closer the correlation coefficient is to +/-1.00 the stronger the relationship is between variables. According to Gay, Mills, and Airasian (2006) correlations with an absolute value less than .35 are considered low, moderate correlations have absolute values between .36 and .65, and correlations with absolute values above .66 are regarded as high. The sign denotes the direction of the relationship. A positive correlation implies that as scores increase on one variable they also increase

on the other. A negative correlation suggests the opposite, as scores on one variable increase they decrease on the other (Pedhazur, 1997).

Because correlation coefficients describe the relationship between variables, they may also be used to statistically validate a theoretical construct. Statistically significant correlations between variables within a construct indicate convergent validity. In other words, a construct is said to have convergent validity when variables which should be related according to theory have statistically significant positive correlations (Nunnally & Bernstein, 1994). As all of the variables which compose the Resilient Force construct are of theoretical interest, the focus of correlational analysis was to assess the convergence of the variables, which compose the Resilient Force construct. The correlation coefficients between the variables within the Resilient Force construct are presented in table 4.

Table 4

Bivariate Correlations among the Variables within the Resilient Force Construct

	Purpose	Hope	Connectedness	Creativity
Purpose	1.00	.39 **	.37 **	-.07
Hope		1.00	.49**	-.10
Connectedness			1.00	-.15*
Creativity				1.00

Note. Purpose = Sense of Purpose; Belong = Sense of Connectedness

N = 162

** $p < .01$

* $p < .05$

An examination of the correlation coefficients revealed that hope, sense of

purpose, and sense of connectedness are positively correlated to a moderate degree (Gay, Mills, & Airasian, 2006) with hope and sense of connectedness having the strongest relationship. In other words, students who scored high on one scale had a tendency to score high on the others. Likewise, students who scored low on one of the indicators tended to score low on the others. The correlations between these three variables are statistically significant at $p < .01$. The squared correlation coefficient (r^2) represents the amount of variance shared between variables. In correlational research the relationship does not imply prediction. It is simply an estimate of the amount of variance two variables have in common (Pedhazur, 1997). The variance shared between sense of purpose and hope, and sense of purpose and sense of connectedness was about 15%. The variables hope and sense of connectedness shared about 24% of the variance.

Creativity was not correlated with sense of purpose or hope to a statistically significant degree. However, there was a statistically significant low negative correlation between creativity and sense of connectedness at $p < .05$. While the negative correlation between creativity and sense of connectedness was not anticipated, the notion that creative works are often inspired during times of solitude may help to explain this relationship (Olszewski-Kubilius, 2002). Sense of connectedness and creativity shared a minimal amount of variance, about 2%.

As sense of purpose, hope, and sense of connectedness shared moderate correlations, convergent validity was established among these variables. In other words, the results of the correlational analyses statistically demonstrated that these three scales were measuring a similar construct. Although convergent validity was not established for creativity, it was theoretically essential to the Resilient Force construct and was therefore

retained for analysis.

Summary of Research Question 1

The relationships between the variables within the Resilient Force construct were evaluated by examining the bivariate correlations generated between the variables. With the exception of creativity all of the variables were positively correlated to a moderate degree. Correlations between creativity and sense of purpose and creativity and hope were not statistically significant. Creativity and sense of connectedness shared a low negative correlation. All of the variables were retained as part of the theoretical construct.

Question Two: What are the relationships between the variables composing the theoretical Emotionality construct, which are measures of anger, anxiety, depression, and disruptive behavior?

Question one and two were answered in a similar manner, as the second question was answered by examining correlation coefficients generated between the variables identified within the Emotionality construct. Because anxiety, depression, anger, and disruptive behavior were all of theoretical interest, the focus of this analysis was to assess convergence of these scales. Table 5 summarizes the correlation coefficients and significance statistics between the variables within this theoretical construct

Table 5

Bivariate Correlations among the Variables Composing the Emotionality Construct

	Anxiety	Depression	Anger	Disruptive
Anxiety	1	.71(**)	.63(**)	.33(**)
Depression		1	.69(**)	.37(**)
Anger			1	.56(**)
Disruptive				1

Note. Disruptive = Disruptive behavior

N = 162

** $p < .01$

The correlation coefficients suggest that all of the variables have a positive relationship with the other variables within the set and that all of the correlations were statistically significant at $p < .01$; however, the size of the relationship varies between bivariate sets. Anger and anxiety are highly correlated with depression, anger was moderately correlated with both anxiety and disruptive behavior, and disruptive behavior was moderately correlated with depression and had a low correlation with anxiety. Anger and disruptive behavior were expected to have a stronger correlation than disruptive behavior and depression or anxiety, as individuals tend to externalize feelings of anger, where as, anxiety and depression are associated with internalizing behaviors (Mash & Barkley, 2003). Because all of the variables were positively correlated, convergent construct validity was established (Nunnally & Bernstein, 1994).

The common variance between anxiety and depression, anxiety and anger, anxiety

and disruptive behavior was about 50%, 40%, 11%, respectively. The shared variance between depression and anger, and depression and disruptive behavior, was about 48% and 14%, accordingly. Anger and disruptive behavior had about 31% shared variance.

Summary of Research Question 2

Bivariate correlations were generated between the variables composing the Emotionality construct in order to examine the relationships between the variables within the construct. All of the variables shared statistically significant positive correlations. Depression and anger, as well as, depression and anxiety were highly correlated. Anxiety and anger, depression and disruptive behavior, and anger and disruptive behavior were moderately correlated. There was a low correlation between anxiety and disruptive behavior. Due to the intercorrelations among the variables within the set convergent validity was established.

Question 3: What is the Multivariate Relationship between the Variables composing the Resilient Force and Emotionality Constructs?

The multivariate relationship between the Resilient Force and Emotionality constructs was evaluated using canonical correlation analysis. The variables composing the construct of Emotionality were used as dependent variables and the variables within the construct of Resilient Force comprised the covariates. In general, the number of canonical functions generated through canonical analysis is equal to the number of variables in the variable set with the fewest variables. Collectively, the functions compose the full model (Thompson, 1984). For this study both variable sets were

comprised of four variables each; thus, the canonical analysis yielded four functions. The full model across all canonical functions was statistically significant using the Wilks' Λ .54 criterion, $F(16, 471.12) = 6.51, p < .001$. Wilks' Λ specifies the amount of variance unaccounted for by the model, hence, $1 - \Lambda$ yields the effect size for the full model (Pedhazur, 1997; Sherry & Henson 2005). Therefore, the effect size across all four functions generated in the current study was .46. In other words, Resilient Force accounted for about 46% of the variance in Emotionality.

In canonical correlation analysis the statistical significance of the functions are evaluated through dimension reduction analysis, which tests the hierarchical arrangement of functions for statistical significance. Thus, in order to test the statistical significance of the first function, the statistical significance of the full model is evaluated, and then each successive function is tested for statistical significance by subtracting the preceding function from the model and evaluating the remaining functions collectively. As such, only the last function is tested in isolation (Sherry & Henson, 2005). Of the four functions which composed the full model generated for the current study the squared canonical correlation (R_c^2) associated with the first function was statistically significant ($R_c^2 = .41, F[16, 471.12] = 6.51, p < .001$). The squared canonical correlations relating to functions 2 through 4, 3 through 4, and 4 did not account for a statistically significant amount of shared variance between the variable sets. The squared canonical correlations corresponding to these functions were $R_c^2 = .07, F(9, 377.38) = 1.60, p = .114$; $R_c^2 = .02, F(4, 312.00) = .77, p = .55$; and $R_c^2 = .00, F(1, 157) = .06, p = .80$, respectively. Theoretically, only one function was expected to reach statistical significance. Thus, only one statistically significant relationship between the two variable sets was anticipated.

The contribution of each variable to an identified canonical function can be evaluated by examining the squared structure coefficients. A structure coefficient is simply the bivariate correlation between an observed variable and the canonical composite generated from the variable's set (Sherry & Henson, 2005). For example, for this study the structure coefficient for sense of purpose is the bivariate correlation between sense of purpose and the composite variable created from sense of purpose, sense of connectedness, hope, and creativity. A squared structure coefficient represents the variance linearly shared between an original variable and its canonical composite (Thompson, 1984; Sherry & Henson). Thus, the squared structure coefficient for sense of purpose indicates the proportion of variance sense of purpose and its composite variable have in common. Table 6 presents the structure coefficients and the squared structure coefficients for function 1. The standardized canonical coefficients, which are the weights derived to maximize the canonical correlation are presented as well (Sherry & Henson). Because the canonical coefficients do not account for intercorrelations among the variables within the variable set, the standardized canonical coefficients are generally not interpreted (Thompson).

Table 6

Canonical Solution for Function 1

Resilient Force				Emotionality			
Covariate	<i>Coef</i>	r_s	r_s^2	Variable	<i>Coef</i>	r_s	r_s^2
Purpose	-.80	-.94	.88	Depression	.71	.93	.86
Connectedness	-.31	-.65	.42	Anger	-.02	.77	.59
Hope	-.04	-.52	.27	Anxiety	.12	.74	.55
Creativity	.12	.23	.05	Disruptive	.39	.69	.48

Note: Variable refers to dependent variable.

An examination of the squared structure coefficients within the construct of Resilient Force suggested that the variables did not equally contribute to the function 1 solution. Sense of purpose was the most relevant variable to the canonical correlation, as approximately 88% of the variance was shared between sense of purpose and its canonical composite. Sense of connectedness and hope moderately contributed to function 1 sharing about 42% and 27% of the variance respectively. Creativity made a minimal contribution to the multivariate relationship, as the common variance between creativity and the canonical composite was about 5%. The minimal contribution of creativity is likely due to creativity's lack of convergence with the overall construct.

All of the variables within the construct of Emotionality seemed to be particularly relevant to function 1. Depression contributed the most to the relationship sharing approximately 86% of the variance with the canonical composite. Anger, anxiety, and disruptive behavior shared about 59%, 55%, and 48% of the variance with the canonical composite, accordingly.

Summary of Research Question Three

The multivariate relationship between the variables representing the Resilient Force construct and the variables representing the theoretical construct of Emotionality was assessed using canonical correlation analysis. The analysis yielded four functions. The full model across all four functions accounted for a considerable proportion of the variance shared between the variable sets, about 46%. Individually, as anticipated, only the first function explained a statistically significant proportion of the shared variance, about 41%.

The contributions of the individual variables to function 1 were assessed by examining the squared structure coefficients. Within the Resilient Force construct, sense of purpose contributed substantially to the multivariate relationship, sharing about 88% of the variance with the Resilient Force canonical composite. Sense of connectedness and hope made moderate contributions to function 1 and creativity contributed minimally. Within the Emotionality construct depression contributed the most to the function, sharing about 86% of the variance with its canonical composite. Anger, anxiety, and disruptive behavior also made considerable contributions to function 1.

Chapter Summary

This chapter presented the results of the data analysis for the study. The chapter began with an overview of the descriptive statistics as they related to the required statistical assumptions relevant to this study. This section was followed by responses to three research questions: what are the relationships between the variables measuring the Resilient Force construct; what are the relationships between the variables connectedness

to the Emotionality construct; and what is the multivariate relationship between the variables composing the Resilient Force and Emotionality constructs?

Research questions one and two were addressed by examining the bivariate correlations. The results indicated that sense of purpose, sense of connectedness, and hope were positively correlated and thus, established convergent validity. Although convergent validity was not established for creativity, it was retained as part of the Resilient Force construct for theoretical reasons. Anxiety, anger, depression, and disruptive behavior were positively correlated and formed the Emotionality construct.

Canonical correlation analysis was performed between the variables composing the Resilient Force construct and the variables composing the construct of Emotionality to answer the third research question. The full model was statistically significant and accounted for about 46% of the variance shared between variable sets. The full model was comprised of four functions of which as expected only the first explained a statistically significant proportion of the shared variance, about 41%. Within their respective variable sets sense of purpose and depression contributed most to the canonical solution of function 1 followed by sense of connectedness and anger, then hope and anxiety, and finally creativity and disruptive behavior.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The primary aim of this study was to establish a basis in the philosophy of the third wave of resiliency as conceptualized by Richardson (2002). According to the third wave philosophy, resilience is a motivational force which compels a person to experience personal growth through adversity. In an effort to provide empirical support for the third wave philosophy, it was necessary to explore the relationship between the motivational force and a measure of how well a person seems to be doing. This required operationalizing the motivational force, which is represented by the Resilient Force construct, providing a definition of doing okay, and operationalizing that definition. A review of previous research in the area of resilience as well as related literature provided the concepts associated with the Resilient Force construct (Alvord, & Grados, 2005; Baruth & Carroll, 2002; Bernard, 1991; Brooks, 1994; Buckner, et al. 2003; de Souza, 2006; Hart & Waddell, 2003; Luthar, 1991; Richardson, 2002; Rolf et al., 1990; Werner & Smith, 2001). For this study, doing okay was defined as being relatively free from frequently experiencing intense negative feelings and related behaviors, as characterized by the Emotionality construct.

In order to explore the relationship between the components within the Resilient Force construct, bivariate correlations were generated between the variables within the construct. Likewise, bivariate correlational analysis was used to explore the relationship

between the variables composing Emotionality. Because all of the variables within each construct were of theoretical interest, the focus of the bivariate correlational analysis was to assess the convergence of the variables within each construct. The relationship between the two constructs was examined through canonical correlation analysis. This chapter provides a summary of the results of the statistical analyses, which is followed by a description of the conclusions based upon the findings. Then implications for theory, practice, and future research are presented. The chapter concludes with closing remarks.

Summary of Findings

This study addressed three research questions:

4. What are the relationships between the variables composing the theoretical Resilient Force construct, which are measures of sense of purpose, sense of connectedness, hope, and creativity?
5. What are the relationships between the variables composing the theoretical Emotionality construct, which are measures of anger, anxiety, depression, and disruptive behavior?
6. What is the multivariate relationship between the variables composing the Resilient Force and Emotionality constructs?

This section provides a summary of the results for each question.

The first question explored the relationship between the four Resilient Force theoretical variables, which were sense of purpose, sense of connectedness, hope, and creativity. The results of a bivariate correlation indicated that sense of purpose, sense of connectedness, and hope were positively intercorrelated to a moderate degree. Thus, the

sense of purpose, sense of connectedness, and hope scales converged. The analyses indicated that creativity was not correlated with either sense of purpose or hope to a statistically significant degree. However, there was a statistically significant low negative correlation between creativity and sense of connectedness.

Question two explored the relationship between the theoretical variables which composed the Emotionality construct. Bivariate correlations between anger, anxiety, depression, and disruptive behavior were generated to address the second question. All four of the theoretical Emotionality variables were positively intercorrelated. Depression was highly correlated with anger and anxiety and was moderately correlated with disruptive behavior. Anger was also moderately correlated with disruptive behavior. Anxiety and anger shared a moderate correlation and although statistically significant, the correlation between anxiety and disruptive behavior was low. As the correlations between all four theoretical variables were positive, the Emotionality construct demonstrated convergent validity.

The third question investigated the relationship between the Resilient Force and Emotionality constructs. A canonical correlation was generated between the two constructs with the Resilient Force variables as covariates and the Emotionality variables as dependent variables. As both theoretical constructs are comprised of four variables, the canonical correlation analysis yielded four canonical functions. The full model across all canonical functions was statistically significant demonstrating an effect size of .46. Thus, approximately 46% of variance in Emotionality can be explained by the Resilient Force construct. Individually, as anticipated only the first function, the first correlation of

composite scores, was statistically significant, accounting for approximately 41% of the variance.

A canonical correlation is the correlation between the composite score of the variables composing the independent variable set and the composite score of the variables composing the dependent set of variables. However, the variables within a given set do not contribute equally to that set's composite score. Thus, a high score on a variable that largely contributes to the canonical composite may serve to ameliorate lower scores on two or more of lesser contributing variables. Yet, a low score on a variable that makes a large contribution to the composite does not necessarily indicate a low composite score, as high scores on two or more of lesser contributing variables will raise the composite score. Hence, the canonical composite is dependent upon the specific combination of an individual's scores on particular variables (Thompson, 1984). The squared structure coefficients denote the contribution of each variable to the canonical composite, as they represent the amount of variance in the canonical composite that is accounted for by a specific variable.

An examination of the squared structure coefficients of the canonical correlation revealed the contribution of each variable to the first canonical function representing the Resilient Force construct. Sense of purpose was the most important variable in the Resilient Force construct sharing 88% of the variance with the Resilient Force canonical composite. Sense of connectedness, hope, and creativity shared approximately 42%, 27%, and 5% of the variance of the Resilient Force canonical composite, respectively. For the Emotionality construct, depression was the variable most relevant to function one, as depression and the Emotionality canonical composite shared roughly 86% of the

variance. Anger, anxiety, and disruptive behavior shared about 59%, 55%, and 48% of the variance with the canonical composite, respectively.

The overall results of the analyses provided statistical support for the Emotionality construct. Additionally, the positive bivariate correlations between the variables associated with the Emotionality construct provided additional observational verification for this construct. The analyses indicated that sense of purpose, sense of connectedness, and hope converged suggesting that these variables measured a similar construct. Furthermore, the results indicate a substantial significant relationship between Emotionality and Resilient Force.

Conclusions

Based on the findings several conclusions can be drawn. These conclusions concern the nature of the Resilient Force and the Emotionality multivariate relationship. Additionally, conclusions regarding the nature of the constructs can be extrapolated from the results of the bivariate correlations generated from the set of variables that are attributed to each separate construct. Moreover, the findings resulting from the examination of the squared structure coefficients associated with the canonical correlation also provide conclusions regarding the nature of the Resilient Force and the Emotionality constructs. This section presents a detailed explanation of the conclusions. A description of the construct conclusions drawn from the results of the bivariate correlations and the squared structure coefficients will be followed by a discussion of the conclusions based upon the multivariate relationship between the Resilient Force and the Emotionality constructs. The implications

associated with the conclusions will be addressed in the implications section of this chapter.

Resilient Force

The Resilient Force construct represents resilience as it is understood in the third wave of resilience inquiry as postulated by Richardson (2002). According to third wave philosophy, resilience is a motivational force that drives an individual to grow through adversity. In order to develop a better understanding of Resilient Force, the Resilient Force construct was operationalized by identifying measurable concepts associated with the construct. These measurable concepts can be thought of as subscales. The four subscales which compose the Resilient Force construct, sense of purpose, sense of connectedness, hope, and creativity were mentioned repeatedly in resilience and related literature as being central in helping an individual to overcome adversity (Alvord & Grados, 2005; Buckner et al, 2003; de Souza, 2006; Garmezy & Rutter, 1988; Hart & Waddell, 2003; Richardson, 2002; Snyder et al., 1997; Turner, 2005; Werner & Smith, 1982, 2001) and thus were chosen to frame the construct.

Although all of the variables within the Resilient Force construct are of theoretical significance, the results of the statistical analyses only support the inclusion of sense of purpose, sense of connectedness, and hope. This is evidenced by the convergent validity demonstrated among these three variables, which indicates that the variables are measuring the same overall construct. Additionally, sense of purpose, sense of connectedness, and hope make large to moderate contributions to the multivariate relationship, which further substantiates the value of these variables

to the construct. Furthermore, the synchronicity between the theoretical expectations and empirical results regarding these three variables suggests that appropriate instruments were used to assess these concepts.

Unlike sense of purpose, sense of connectedness, and hope, creativity did not demonstrate convergent validity and contributed very minimally to the multivariate relationship, sharing only 5% of the variance with its canonical composite. Thus, the results of the analyses suggest that creativity should be excluded from the Resilient Force construct. However, the literature indicates that creativity is instrumental in helping individuals overcome adversity as it aids in problem solving and provides hope by helping individuals to imagine a brighter future (Buckner et al., 2003; Hart & Waddell, 2003; Richardson, 2002; Snyder, et al., 1997; Wolin & Wolin, 1993). Further, according to Piirto (2004), creativity can be defined in various ways beyond the divergent production definition utilized for the current study. Given this consideration, and because theory strongly supports the inclusion of creativity in the Resilient Force construct, it would be imprudent to discard creativity from the theoretical construct based on the results of this study. Rather measures of intuition and other types of creativity might be considered.

Emotionality

Studies of resilience require a definition of positive adaptation. Many researchers have defined positive adaptation in terms of social competence, which is characterized by a consistent pattern of meeting societal expectations (Baruth & Carroll, 2002; Bogar & Hulse-Killacky, 2006; Buckner, et al., 2003; Gothelf et al.,

1997; Werner & Johnson, 2004). However, Luthar (1991) suggests that some children identified as resilient may internalize their stressful experiences. These children may demonstrate positive behavioral adaptation, but may not be doing as well emotionally. While an assessment of the social competence of a child may provide an estimate of his or her general level of functioning, it gives little insight into his or her level of emotional adaptation. Therefore, for the purposes of this study positive adaptation was defined in terms of emotional states.

Emotionality was operationalized as a measure of positive adaptation and is defined as being relatively free from experiencing frequently occurring intense negative emotions. Three of the four subscales composing the Emotionality construct are measures of a child's perceived feeling of a particular emotion. The assessed emotions are anger, anxiety and depression. The fourth subscale measures a child's perception of his or her disruptive behavior. Disruptive behavior was included as part of the Emotionality construct as disruptive behavior is often indicative of elevated levels of negative emotions which are not otherwise expressed (Mash & Barkley, 2003). Low scores on the Emotionality subscales indicate positive emotional adaptation.

The results of the statistical analyses support the inclusion of the anger, anxiety, depression, and disruptive behavior scales within the Emotionality construct. All of the variables within the Emotionality construct demonstrate convergence. Thus, the variables seem to be measuring the same construct. Furthermore, all of the variables contribute significantly to the overall multivariate relationship, as indicated by the squared structure coefficients. The convergence of the variables within the

construct, as well as, the contribution of each individual variable to the multivariate relationship provides empirical support for the theoretical Emotionality construct.

Conclusions drawn from the Relationship between Resilient Force and Emotionality

The results of the canonical correlation analysis demonstrate that the relationship between the Resilient Force construct and the Emotionality construct is substantial, as approximately 46% of the variance in Resilient Force is shared with Emotionality. In other words, 46% of the variability in the Emotionality construct depends on the Resilient Force construct. Thus, the relationship between Resilient Force and Emotionality demonstrates that the collective strength of elemental facets of the human spirit within an individual influence his or her emotional adaptation.

An examination of the squared structure coefficients reveals that sense of purpose is the most important variable within the Resilient Force construct. Sense of connectedness is the second most important followed by hope. The influence of creativity defined as divergent production is negligible. The most relevant variable within the Emotionality construct is depression. Anger, anxiety, and disruptive behavior make relatively equal contributions to the Emotionality construct. Thus, one can conclude that child's sense of purpose has the greatest impact on his or her emotional adaptation, particularly in terms of depression.

Summary of Conclusions

Several conclusions can be inferred from the results of the analyses. Although creativity defined as divergent production does not seem to fit within the Resilient

Force construct, the convergence of sense of purpose, sense of connectedness, and hope provide empirical support for this construct. In other words, the theoretical construct of Resilient Force exists in actuality. Likewise, the Emotionality construct is observable among the children who participated in this study. Furthermore, the relationship between Resilient Force and Emotionality indicates that an individual's Resilient Force, particularly in terms of sense of purpose, influences his or her emotional adaptation especially with regard to depression.

Limitations to Conclusions

This study utilizes the cohort method of assessing risk and resiliency. The cohort method examines the adjustment of individuals exposed to the same type adversity. Thus, this method does not take into account previous life stressors or the stressfulness of an event to the particular individual. Although such limitations exist, the cohort method has been used extensively by researchers (Garmezy et al., 1984; Garmezy & Rutter, 1988; Masten, 2001; Masten & Powell, 2003; Rolf et al., 1990) and is considered a valid approach to examine the relationship between risk and resiliency (Luthar & Zelazo, 2003).

The children who participated in this study were considered at risk due to poverty. Risk status was determined based on enrollment in one of two schools with a high percentage of students on a free or reduced lunch program. Ninety-eight percent of the children were on a free or reduced lunch program at one school and 75% of the children at the other school received free or reduced lunches. While an overwhelming majority of the students attending the schools sampled for this study came from low income families,

it is likely that some participants were not from low SES households and may not have been considered at risk due to poverty.

With the exception of the creativity assessment all of the assessments were self-report surveys. Prior to completing the assessments the children were informed that out of care for them, particularly high scores on the anger, anxiety, depression, or disruptive behavior scale would be reported to the school counselor. Thus, the participants may have artificially raised or lowered their scores either intentionally or by careless completion of the assessment.

There are many types of creativity and numerous measures of creativity (Piirto, 2004). However, there are very few instruments that assess creativity in children. The creativity assessment utilized for this study measures divergent production. A measure of another type of creativity may have been more appropriate for this study.

In order to make the number of assessments manageable for the students and teachers, the students completed the measures in two one hour sessions approximately one week apart. This decreased the sample size as it increased the likelihood of students being unable to complete all eight assessments due to absences. Additionally, the participants' attitude toward completing the assessments may have varied from one assessment session to the next.

The participants completed the assessments at their respective schools. Thus, the environment in which the students completed the instruments may have differed with regard to noise level, distractions and interruptions by school personnel.

Implications

The conclusions drawn from the results of this study propose numerous implications. This study has established a basis in the conceptualization of resilience as a motivational force. Understanding resilience as a motivational force may give insight into ways of fostering resilience in children. Additionally, the conclusions regarding creativity warrant further examination. This section addresses specific implications for theory, practice, and research.

Implications for Theory

Central to the study of all waves of resilience inquiry is the notion that something whether it be a set of protective factors, a process, or a motivational force leads to an individual's resilient pattern. An individual is characterized as having a resilient pattern when he or she demonstrates positive adaptation within the context of adversity (Masten & Powell, 2003). The first wave of resilience inquiry envisaged resilience as a set of characteristics which differentiated adaptive at risk individuals from maladaptive individuals considered at-risk (Yates et al., 2003; Small & Memmo, 2004; Hines et al., 2005). The second wave of resilience inquiry identified resilience as a process initiated by stressful life events which served to generate and fortify an individual's first wave characteristics, resulting in a resilient pattern (Geanellos, 2005; Luthar et al., 2000). Resilience as conceptualized in the third wave differs from the first and second waves of understanding in that the capacity to overcome adversity is not dependent upon a set of characteristics, but instead relies upon the combination of facets of the human spirit which motivate an individual to seek self-actualization and positively transform when confronted with

the challenges of life (Geanellos, 2005; Richardson, 2002). Thus, the third wave of resilience inquiry posits that an individual's motivational center drives him or her toward a resilient pattern.

The children who participated in this study were considered at risk due to poverty. Thus, the Emotionality construct served not only as a measure of positive adaptation, but also provided an estimate of the child's resilient pattern. The Resilient Force construct assessed the motivational force within a child, as it considers the child's unique combination of elements of the human spirit. As the results of this study indicated that there was a substantial relationship between the strength of an individual's Resilient Force and the degree to which he or she demonstrated a resilient pattern, the findings provide empirical support for the conceptualization of the third wave of resilience. Therefore, this study adds to third wave theory as it demonstrates the influence of one's Resilient Force on his or her resilient pattern.

This study supports an additional postulate of the third wave philosophy, which is the notion that all people are capable of demonstrating a resilient pattern (Richardson, 200). The results of the canonical correlation indicate that an individual's Resilient Force is determined by the combination of his or her internal strengths. Thus, the motivational center of an individual differs from person to person, as an individual's weaknesses in one or more areas may be compensated by his or her strengths. In other words, the capacity to be resilient does not rely upon a universal set of factors, but instead is motivated by an individual's unique strengths. Therefore, all people are capable of resilience.

Implications for Practice

Understanding resilience as a motivational force present within all people provides several implications for the practice of fostering resilience in children. The first and second waves of inquiry suggest that an individual's ability to be resilient is developed within the context of adversity. However, the third wave of understanding resilience implies that the ability of an individual to flourish when confronted with life stressors can be preventively strengthened (Richardson, 2002). The conceptualization of resilience in the third wave promotes the idea that the capacity to be resilient is not determined by the number of protective factors an individual has but by the strength of his or her motivational center as represented by the Resilient Force construct. Thus, educational programs designed to strengthen an individual's motivational center by nurturing the spirit of the child would serve to promote positive development and a drive towards self-actualization despite past, present, or future adversity.

As sense of purpose is a particularly important element of the Resilient Force construct, giving a child the freedom to define him or her self is central to nurturing the spirit of the child. Individuals participating in the life of a child should take care to not impose preconceived notions of who the child is or will be upon the child. Providing support for the unique characteristics of a child within the context of an emotionally safe and loving environment will enable him or her to make meaning of his or her own life. This meaning encompasses the child's sense of purpose and sense of self. This level of understanding oneself leads to self-acceptance and allows the child to grow, flourish, and strive toward his or her potential.

Implications for Research

The disconnect between the theoretically supported inclusion and the statistically supported exclusion of creativity as part of the Resilient Force construct warrants further examination. According to Piirto (2004), “psychology has several threads of research into creativity” (p. 10). Thus, there are a variety of theoretical approaches toward conceptualizing creativity. These include humanistic, positive, psychometric, developmental, cognitive, and educational (Piirto, 2004). For this study, creativity is defined as divergent production, which is a quantitative approach of assessing an individual’s creative potential.

Divergent production tests of creativity attempt to measure an individual’s ability to build new information by revising what is known and exploring new possibilities (Piirto, 2004). Piirto suggests that while it may be easy to assess divergent production, divergent production is not necessarily indicative of creativity. The creativity addressed in resilience literature seems to be creativity as conceptualized from a humanistic perspective. The humanistic understanding of creativity emphasizes the idea that all people are creative and suggests that the nature of creativity is spiritual (Piirto, 2004). Unfortunately, most tests of creativity for children assess divergent production and very few if any assess creativity based on the humanistic conceptualization. Therefore, future research should focus on exploring measures that represent other forms of creativity, such as intuition and insight.

Closing Remarks

Masten (2001) wrote “the great surprise of resilience research is the ordinariness of the phenomena” (p. 227). Resilience once understood as a gift of superhuman interpersonal strength possessed by those who were invulnerable and invincible now appears to be ordinary and common. Resilience is a gift, but not just for a few. As the study of resilience has unfolded over the past several decades many researchers and scholars have concluded that the capacity for resilience is present in all individuals. Humankind’s ability to not only overcome stressors, but to grow through hardships with new insight is a basic adaptational system. If this system is nurtured and cared for in children, they will flourish even in the face of adversity.

REFERENCES

- Achenbach, T. M., & Edelbrock, C. S. (2001). *Manual for the Youth Self-Report*. Burlington, VT: University of Vermont, Department of Psychiatry.
- Alvord, M. K., & Grados, J. J. (2005). Enhancing resilience in children: A proactive approach. *Professional Psychology: Research and Practice, 36*, 238-245.
- Aronowitz, T. (2005). The role of “envisioning the future” in the development of resilience among at-risk youth. *Public Health Nursing, 22*, 200-208.
- Baruth, K. E., & Carroll, J. J. (2002). A formal assessment of resilience: The Baruth protective factors inventory. *Journal of Individual Psychology, 58*(3), 235.
- Beck, J. S., Beck, A. T., Jolly, J. B., & Steer, R. A. (2005). *Beck Youth Inventories for Children and Adolescents Manual* (2nd ed.). San Antonio, TX: Harcourt Assessment
- Bennett, P., Elliott, M., & Peters, D. (2005). Classroom and family effects on children's social and behavioral problems. *Elementary School Journal, 105*, 461-480.
- Bernard, B. (1991) *Fostering Resiliency in Kids: Protective Factors in the Family, School, and Community*. San Francisco: Far West Laboratory for Educational Research and Development.
- Bogar, C. B., & Hulse-Killacky, D. (2006). Resiliency determinants and resiliency processes among female adult survivors of childhood sexual abuse. *Journal of Counseling & Development, 83*, 318-327.

- Bonanno, G. A., Wortman, C. B., Lehman, D. R., Tweed, R. G., Haring, M., & Sonnega, J., et al. (2002). Resilience to loss and chronic grief : A prospective study from preloss to 18-months postloss. *Journal of Personality and Social Psychology*, 83, 1150-1164.
- Bracke, P. (2001). Measuring the subjective well-being of people in a psychosocial rehabilitation center and a residential psychiatric setting: The outline of the study and the measurement properties of a multidimensional indicator of well-being. *Psychiatric Rehabilitation Journal*, 24, 222-236.
- Briere, J. N. (1996). *Trauma Symptom Checklist for Children (TSCC) professional manual*. Odessa, FL: Psychological Assessment Resources, Inc.
- Brooks, R. B. (1994). Children at risk: Fostering resilience and hope. *American Journal of Orthopsychiatry*, 64, 545.
- Bull, K. & Davis, G. (1982). Inventory for Appraising Adult Creativity. *Contemporary Educational Psychology*, 7, 1-8.
- Butcher, J. N., Williams, C.L., Graham, J. R., Archer, R. P., Tellegen, A. Ben-Porath, Y.S., Kaemmer, B. (1992). *Manual for administration, scoring, and interpretation: Minnesota Multiphasic Personality Inventory- Adolescent*. Minneapolis, MN: University of Minnesota Press.
- Buckner, J. C., Mezzacappa, E., & Beardslee, W. R. (2003). Characteristics of resilient youths living in poverty: The role of self-regulatory processes. *Development and Psychopathology*, 15, 139-162.

- Callahan (2005). [Review of the Khatena-Torrance Creative Perception Inventory] In B. S. Plake & R. A. Spies (Eds.), *The Sixteenth Mental Measurements Yearbook*. Lincoln, NE: Buros Institute of Mental Measurements.
- Cicchetti, D. (2003). Foreword. In S. S. Luthar (Ed.), *Resilience and vulnerability : Adaptation in the context of childhood adversities* (pp. xix-xxvii). Cambridge, U.K.: Cambridge University Press.
- Cicchetti, D., & Rogosch, F. A. (1997). The role of self-organization in the promotion of resilience in maltreated children. *Development and Psychopathology*, 9, 797-815.
- CIM Test Publishers (1996). *Manchester Personality Questionnaire*. Sheffield, England: CIM.
- Coopersmith, S. (1989). *Self-esteem inventories*. Palo Alto, CA: Consulting Psychologists Press.
- Davis, G. (2004). *Creativity is forever* (5th ed.). Dubuque, IA: Kendall/Hunt.
- De Civita, M. (2006). Strength-based efforts for promoting recovery from psychological harm. *Reclaiming Children & Youth*, 14, 241-244.
- de Souza, M. (2006). Educating for hope, compassion and meaning in a divisive and intolerant world. *International Journal of Children's Spirituality*, 11, 165-175.
- De Vaus, D. A. (2002). *Analyzing social science data*. Thousand Oaks, CA: Sage.
- Dean, S. R. (1973). *Schizophrenia: The first ten dean award lectures*. New York: MSS Information.
- Dearden, J. (2004). Resilience: A study of risk and protective factors from the perspective of young people with experience of local authority care. *Support for Learning*, 19(4), 187-193.

- Demar, A. (1997). A school-based group intervention to strengthen personal and social competencies in latency-age children. *Social Work in Education, 19*, 219-230.
- Denny, S., Clark, T.C., & Fleming, T. (2004). Emotional resilience: Risk and protective factors for depression among alternative education students in New Zealand. *American Journal of Orthopsychiatry, 74*, 137-149.
- Eisenberg, N., Fabes, R. A., Guthrie, I. K., & Reiser, M. (2000). Dispositional Emotionality and regulation: Their role in predicting quality of social functioning. *Journal of Personality & Social Psychology, 78*, 136-157.
- Eisenberg, N., Spinrad, T. L., Fabes, R. A., Reiser, M., Cumberland, A., & Shepard, S. A., et al. (2004). The relations of effortful control and impulsivity to children's resiliency and adjustment. *ChildDevelopment, 75*, 25-46.
- Everall, R., Altrows, J., & Paulson, B. (2006). Creating a future: A study of resilience in suicidal adolescent females. *Journal of Counseling and Development, 84*, 461-470.
- Farrell, J., & Johnson, J. (2003). [Review of the Children's Inventory of Self-Esteem, Second Edition] In B. S. Plake, J. C. Impara, & R. A. Spies (Eds.), *The Fifteenth Mental Measurements Yearbook* (pp. 105-110). Lincoln, NE: Buros Institute of Mental Measurements.
- Fergus, S., & Zimmerman, M. (2005). Adolescent resilience: A framework for understanding healthy development in the face of risk. *Annual Review of Public Health, 26*, 399-419.
- Fergusson, D., & Horwood, J. (2003). Resilience to childhood adversity: Results of a 21-year study. In S. S. Luthar (Ed.), *Resilience and vulnerability : Adaptation in the*

- context of childhood adversities* (pp. 130-155). Cambridge, U.K.; New York: Cambridge University Press.
- Foster, E. M., & Jones, D. E. (2005). The high costs of aggression: Public expenditures resulting from conduct disorder. *American Journal of Public Health, 95*, 1767-1772.
- Garnezy, N. (1982). Forward. In E. E. Werner & R. S. Smith. *Vulnerable but invincible: A longitudinal study of resilient children and youth* (pp. xiii-xix). New York: McGraw Hill.
- Garnezy, N., Masten, A., Nordstrom, L. & Ferrarese, M. (1979). The nature of competence in normal and deviant children. In M. W. Kent & J. E. Rolf (Eds.), *Social competence in children* (pp. 22-43). Hanover, NH: The University Press of New England.
- Garnezy, N., Masten, A. S., & Tellegen, A. (1984). The study of stress and competence in children: A building block for developmental psychopathology. *Child development, 55*, 97-113.
- Garnezy, N., & Rutter, M. (Eds.). (1988). *Stress, coping, and development in children*. Baltimore: Johns Hopkins University Press.
- Gay, L. R., Mills, G. E., & Airasian, P. W. (2006). *Educational research : Competencies for analysis and applications* (8th ed.). Upper Saddle River, N.J.: Pearson Merrill Prentice Hall.
- Geanellos, R. (2005). Adversity as opportunity: Living with schizophrenia and developing a resilient self. *International Journal of Mental Health Nursing, 14*(1), 7-15.

- Gebart Eaglemont, J. (1998). [Review of the Manchester Personality Questionnaire] In J. Impara & B. S. Plake (Eds.), *The Fourteenth Mental Measurements Yearbook*. Lincoln, NE: Buros Institute of Mental Measurements.
- Goff, K. (2005). Goff-Torrance Creativity Indicator. Tulsa, Oklahoma: McGoff Creative Enterprises.
- Goff, K. & Torrance, E. P. (2002). Abbreviated Torrance Test for Adults. Bensenville, IL: Scholastic Service Testing, Inc.
- Gothelf, D., Apter, A., & van Praag, H. M. (1997). Measurement of aggression in psychiatric patients. *Psychiatry Research*, 71(2), 83-95.
- Grant, B. F. (2000). Estimates of US children exposed to alcohol abuse and dependence in the family. *American Journal of Public Health*, 90(1), 112-115.
- Grossman, F., Sorsoli, L., Kia-Keating, M. (2006). A gale force wind: Meaning making by male survivors of childhood sexual abuse. *American Journal of Orthopsychiatry*, 76, 434-443.
- Hammond, C. (2004). Impacts of lifelong learning upon emotional resilience, psychological and mental health: Field work and evidence. *Oxford Review of Education*, 30, 551-568.
- Hart, T. (1999). The refinement of empathy. *Journal of Humanistic Psychology*, 39(4), 111.
- Hart, T. & Waddell, A. (2003). *Spiritual issues in counseling and psychotherapy: Toward assessment and treatment*. ChildSpirit Institute.

- Hines, A. M., Merdinger, J., & Wyatt, P. (2005). Former foster youth attending college : Resilience and the transition to young adulthood. *American Journal of Orthopsychiatry*, 75, 381-394.
- Howard, S., Dryden, J., & Johnson, B. (1999). Childhood resilience: Review and critique of literature. *Oxford Review of Education*, 25, 307-323.
- Howell, E. (2004). *Access to children's mental health services under medicaid and SCHIP*. Washington, D.C.: Urban Institute.
- Hoyt-Meyers, L., Cowen, E. L., Work, W. C., Wyman, P. A., Magnus, K., & Fagen, D. B., et al. (1995). Test correlates of resilient outcomes among highly stressed second, and third-grade urban children. *Journal of Community Psychology*, 23, 326-338.
- Huebner, E. S. (1994). Preliminary development and validation of a Multidimensional Life Satisfaction Scale for Children. *Psychological Assessment*, 6(2), 149-158.
- Huebner, S. (2001a). Manual for the Multidimensional Students' Life Satisfaction Scale. Retrieved November 28, 2006, from University of South Carolina, Department of Psychology Website: <http://www.psych.sc.edu/pdfdocs/hueblssmanual.pdf>
- Huebner, S. (2001b). Multidimensional Students' Life Satisfaction Scale. Retrieved November 28, 2006, from University of South Carolina, Department of Psychology Website: <http://www.psych.sc.edu/pdfdocs/hueblssitems.pdf>
- Hurst, M. D. (2005). Safety check. *Education Week*, 24(33), 31-33.
- Isenhardt (1998). [Review of the Manchester Personality Questionnaire] In J. Impara & B. S. Plake (Eds.), *The Fourteenth Mental Measurements Yearbook*. Lincoln, NE: Burors Institute of Mental Measurements.

- Johnson, H. (2005). Counteracting performativity in schools: The case for laughter as a qualitative and redemptive indicator. *International Journal of Children's Spirituality*, 10(1), 81-96.
- Jonson-Reid, M. (2004). Child welfare services and delinquency: The need to know more. *Child Welfare*, 83, 157-173.
- Joseph, J. M. (1994). *The resilient child: Preparing today's youth for tomorrow's world*. New York: Insight Books.
- Kazdin, A., Rodgers, Colbus, & Siegel (1987). Children's Hostility Inventory: Measurement of aggression and hostility in psychiatric inpatient children. *Journal of Clinical Child Psychology*, 16, 320-328.
- Kim, H. K. (2006). Can we trust creativity tests? A review of the Torrance Tests of Creative Thinking (TTCT). *Creativity Research Journal* (18), 3-14.
- Kim-Cohen, J., Moffitt, T. E., Caspi, A., & Taylor, A. (2004). Genetic and environmental processes in young children's resilience and vulnerability to socioeconomic deprivation. *Child Development*, 75, 651-668.
- Kovacs, M. (1992). Children's depression inventory manual. Toronto: Multi-Health Systems.
- Lang, M. & Tisher, M. Children's depression scale. Victoria, Australia: Australian Council for Educational Research.
- Luthar, S. S. (1991). Vulnerability and resilience: A study of high-risk adolescents. *Child Development*, 62, 600-621.
- Luthar, S. S., & Cicchetti, D. (2000). The construct of resilience: Implications for interventions and social policies. *Development and Psychopathology*, 12, 857-885.

- Luthar, S. S., Cicchetti, D., & Becker, B. (2000). The construct of resilience: A critical evaluation and guidelines for future work. *Child Development, 71*, 543-562.
- Luthar, S. S., & Zelazo, L. (2003). Research on resilience: An integrative review. In S. S. Luthar (Ed.), *Resilience and vulnerability : Adaptation in the context of childhood adversities* (pp. 510-550). Cambridge, U.K.; New York: Cambridge University Press.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*, 370-396.
- Mash, E. J., & Barkley, R. A. (2003). *Child psychopathology* (2nd ed.). New York: Guilford Press.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56*(3), 227-238.
- Masten, A. S., & Powell, J. L. (2003). A resilience framework for research, policy, and practice. In S. S. Luthar (Ed.), *Resilience and vulnerability : Adaptation in the context of childhood adversities* (pp. 1-25). Cambridge, U.K.: Cambridge University Press.
- Mazzotti, V. L., & Higgins, K. (2006). Public schools and the juvenile justice system: Facilitating relationships. *Intervention in School & Clinic, 41*(5), 295-301.
- Mendez, J. L., Fantuzzo, J., & Cicchetti, D. (2002). Profiles of social competence among Low-Income african american preschool children. *Child Development, 73*(4), 1085-1100.

- Montgomery, D., Otto, S., & Hull, D. (2007). *Project CREATES: Summative report of research findings: Learning through the arts*. Stillwater, OK: Oklahoma State University.
- Morris, E. (2002). *Insight: Assessing and Developing Self-Esteem*. London: NFER-Nelson.
- Nunnally, J & Bernstein, I. (1994). *Psychometric theory* (3rd ed.). New York: McGraw-Hill.
- O'Donnell, D. A., Schwab-Stone, M. E., & Muyeed, A. Z. (2002). Multidimensional resilience in urban children exposed to community violence. *Child Development*, 73(4), 1265-1282.
- Olszewski-Kubilius, P. (2002). Parenting practices that promote talent development, creativity, and optimal adjustment. In Neihart, M., Reis, S., Robinson, N., and Moon, S. (Eds.), *The Social and Emotional Development of Gifted Children: What Do We Know?* (pp. 205-212). Washington, DC: Prufrock Press, Inc.
- Owens, E. B., & Shaw, D. S. (2003). Predicting growth curves of externalizing behavior across the preschool years. *Journal of Abnormal Child Psychology*, 31(6), 575-590.
- Pedhazur, E. J. (1997). *Multiple regression in behavioral research : Explanation and prediction* (3rd ed.). Forth Worth: Harcourt Brace College Publishers.
- Piers, E. (1996). Piers-Harris Children's Self-Concept Scale: Revised manual 1984. Los Angeles: Western Psychological Services.
- Piers, E. (2002). Piers-Harris children's Self Concept Scale (2nd ed.). Los Angeles: Western Psychological Services.
- Piirto, J. (2004). *Understanding Creativity*. Scottsdale, AZ: Great Potential Press, Inc.

- Reynolds, W. (1989). Reynolds Child Depression Scale. Odessa, FL: Psychological Assessment Resources.
- Reynolds, C. & Richmond, B. (1985). Revised Children's Manifest Anxiety Scale (RCMAS) manual. Los Angeles: Western Psychological Services.
- Richardson, G. E. (2002). The metatheory of resilience and resiliency. *Journal of clinical psychology, 58*(3), 307-321.
- Rolf, J., Masten, A., Cicchetti, D., Nuechterlein, K; & Weintraub, S. (Eds.). (1990). *Risk and protective factors in the development of psychopathology*. Cambridge ; New York: Cambridge University Press.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M. W. Kent, & J. E. Rolf (Eds.), *Social competence in children* (pp. 49-74). Hanover, NH: The University Press of New England.
- Sherry, A. & Henson, R. (2005). Conducting and interpreting canonical correlation analysis in personality research: A user friendly primer. *Journal of Personality Assessment, 84*(1), 37-48.
- Small, S., & Memmo, M. (2004). Contemporary models of youth development and problem prevention: Toward an integration of terms, concepts, and models. *Family Relations, 53*(1), 3-11.
- Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, M., Ware, L., & Danovsky, M., et al. (1997). The development and validation of the Children's Hope Scale. *Journal of pediatric psychology, 22*, 399-421.

- Snyder, C. R., Ritschel, L. A., Rand, K. L., & Berg, C. J. (2006). Balancing psychological assessments: Including strengths and hope in client reports. *Journal of clinical psychology, 62*(1), 33-46.
- Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, N.J.: Lawrence Erlbaum Associates.
- Sugland, B. W., Zaslow, M., & Nord, C. W. (1993). *Risk, vulnerability, and resilience among youth: In search of a conceptual framework*. U.S.; District of Columbia:
- Swarbrick, M. (2006). A wellness approach. *Psychiatric rehabilitation journal, 29*(4), 311-314.
- Tedeschi, R. G., & Kilmer, R. P. (2005). Assessing strengths, resilience, and growth to guide clinical interventions. *Professional Psychology: Research and Practice, 36*, 230-237.
- Thompson, B. (1984). *Canonical correlation analysis: uses and interpretation*. Newbury Park, CA: Sage.
- Torrance, E. P. & Khatena, J. (1998). Khatena-Torrance Creative Perception Inventory. Bensenville, IL : Scholastic Testing Service, Inc.
- Torrance, E.P. (1990). Torrance Tests of Creative Thinking: Manual for scoring and interpreting results (Verbal, Forms A and B). Bensenville, IL: Scholastic Testing Service.
- Turner, D. S. (2005). Hope seen through the eyes of 10 Australian young people. *Journal of Advanced Nursing, 52*, 508-515.
- Ungar, M. (2005). *Handbook for working with children and youth: Pathways to resilience across cultures and contexts*. Thousand Oaks, Calif.: Sage Publications.

- Ungar, M., Brown, M., Liebenberg, L., Othman, R., Kwong, W., Armstrong, M., & Gilgun, J. (2007). Unique pathways to resilience across cultures. *Adolescence, 42*, 287-310.
- Valentine, L., & Feinauer, L. L. (1993). Resilience factors associated with female survivors of childhood sexual abuse. *American Journal of Family Therapy, 21*, 216-224.
- vanDeMark, N. R., Russell, L. A., O'Keefe, M., Finkelstein, N., Noether, C. D., & Gampel, J. C. (2005). Children of mothers with histories of substance abuse, mental illness, and trauma. *Journal of Community Psychology, 33*, 445-459.
- Vogt, W. (1999). Dictionary of statistics and methodology: A non-technical guide for social sciences (2nd ed.). Thousand Oaks, CA: Sage.
- Waaktaar, T., Christie, H., Borge, A., & Torgersen, S. (2004). How can young people's resilience be enhanced? Experiences from a clinical intervention project. *Clinical Child Psychology and Psychiatry, 9*, 167-183.
- Werner, E. E. (1984). Research in review. Resilient children. *Young Children, 40*, 68-72.
- Werner, E. E. & Johnson, J. (2004). The role of caring adults in the lives of children of alcoholics. *Substance Abuse & Misuse, 39*(5), 699-720.
- Werner, E. E., & Smith, R. S. (1982). *Vulnerable, but invincible: A longitudinal study of resilient children and youth*. New York: McGraw-Hill.
- Werner, E. E., & Smith, R. S. (1992). *Overcoming the odds: High risk children from birth to adulthood*. Ithaca: Cornell University Press.
- Werner, E. E., & Smith, R. S. (2001). *Journeys from childhood to midlife: Risk, resilience, and recovery*. Ithaca, N.Y.: Cornell University Press.

- Williams-Evans, S. A., & Myers, J. S. (2004). Adolescent violence. *ABNF Journal*, 15(2), 31-34.
- Wiesner, M., & Kim, H. K. (2006). Co-occurring delinquency and depressive symptoms of adolescent boys and girls: A dual trajectory modeling approach. *Developmental psychology*, 42(6), 1220-1235.
- Wolin, S. J & Wolin, S. (1993). *The resilient self: How survivors of troubled families rise above adversity*. New York: Villard Books.
- Yates, T., Egeland, B., & Sroufe, A. (2003). Rethinking resilience: A developmental process perspective. In S. S. Luthar (Ed.), *Resilience and vulnerability : Adaptation in the context of childhood adversities* (pp. 243-266). Cambridge, U.K.: Cambridge University Press.

APPENDIX A
FREQUENCY DISTRIBUTIONS OF SCORES ON ASSESSMENT INSTRUMENTS

Figure 1

Distribution of Beck Anxiety Inventory for Youth

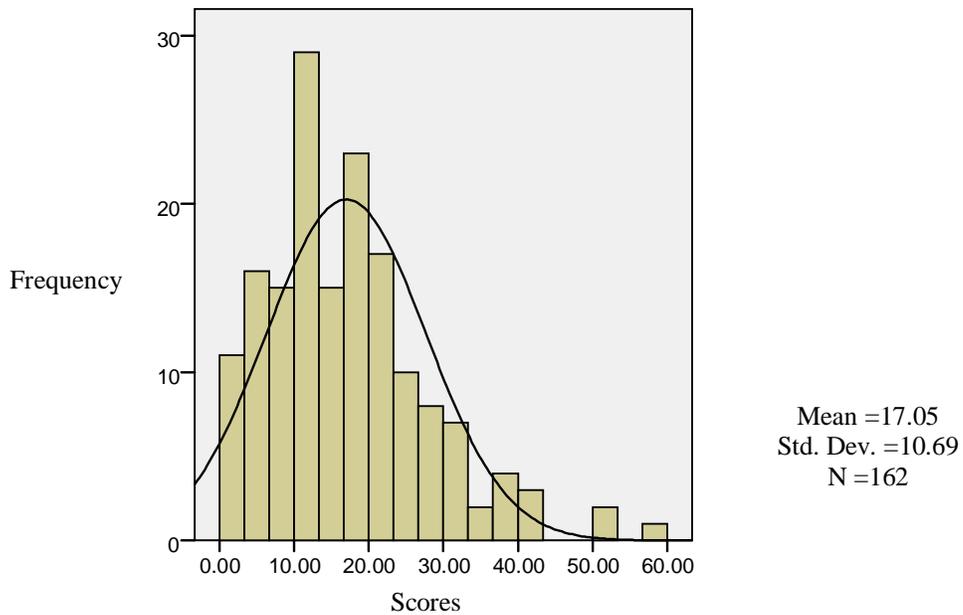


Figure 2

Distribution of Beck Depression Inventory for Youth

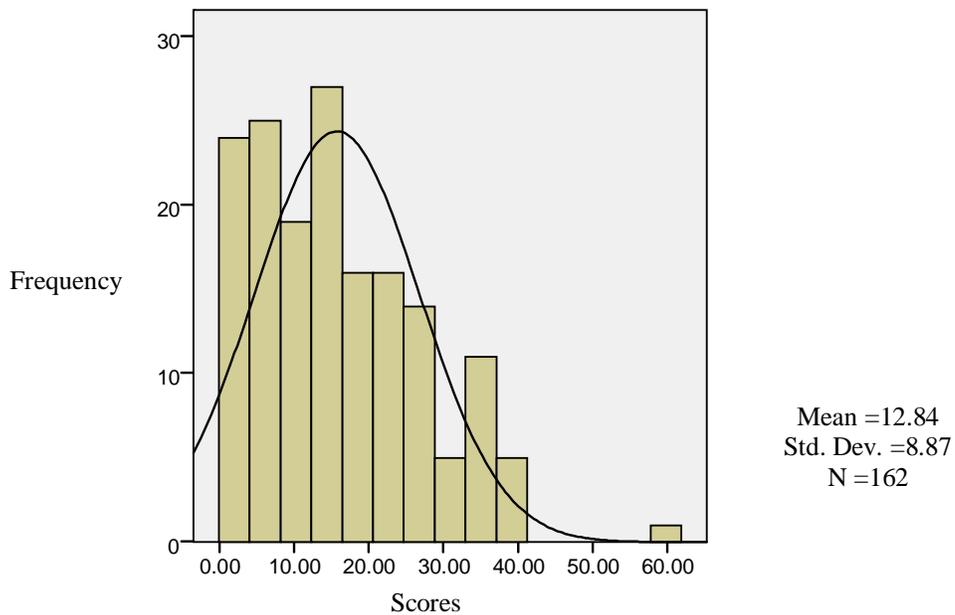


Figure 3

Distribution of Beck Anger Inventory for Youth

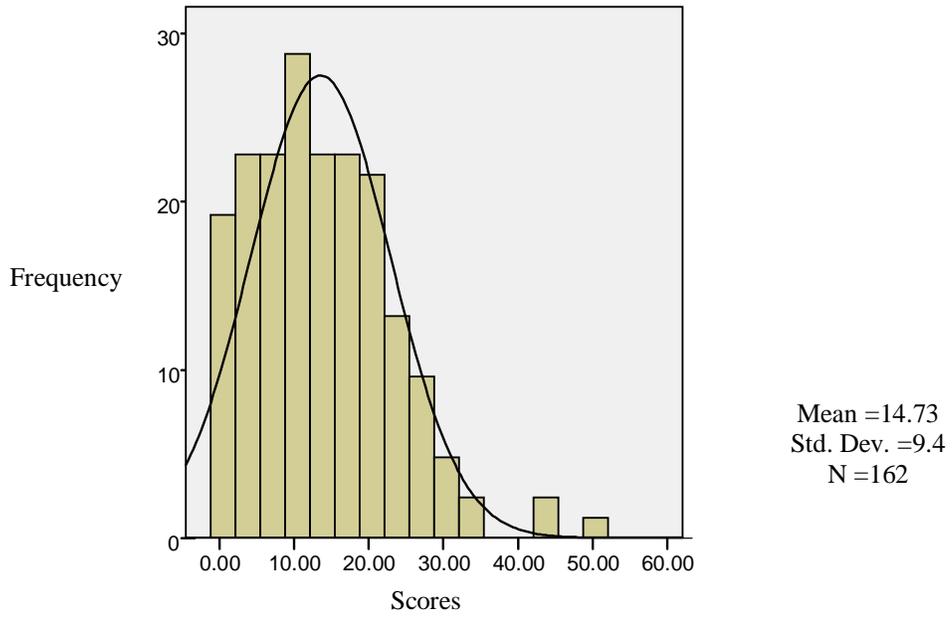


Figure 4

Distribution of Beck Disruptive Behavior Inventory for Youth

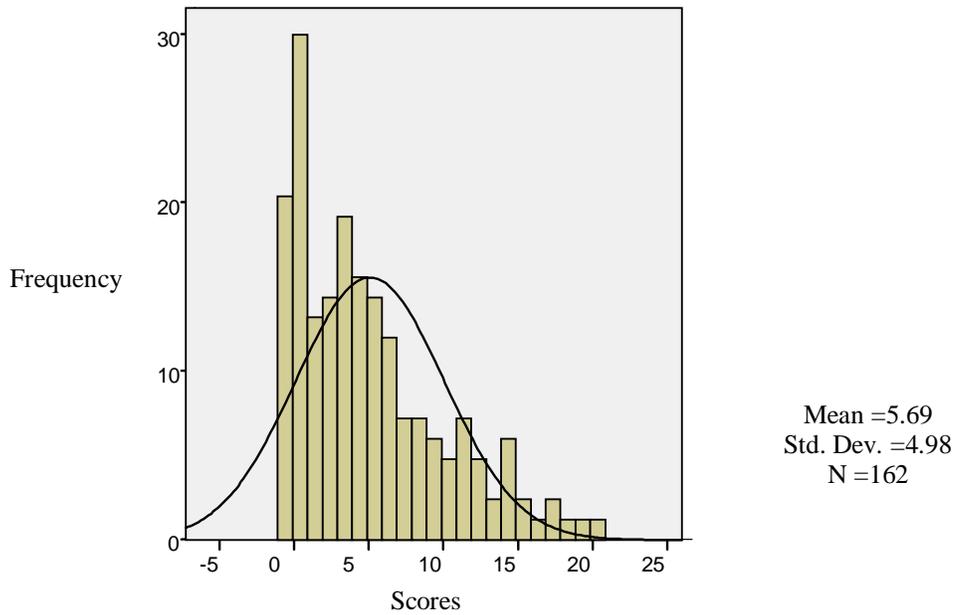


Figure 5

Distribution of Beck Self Concept Inventory for Youth

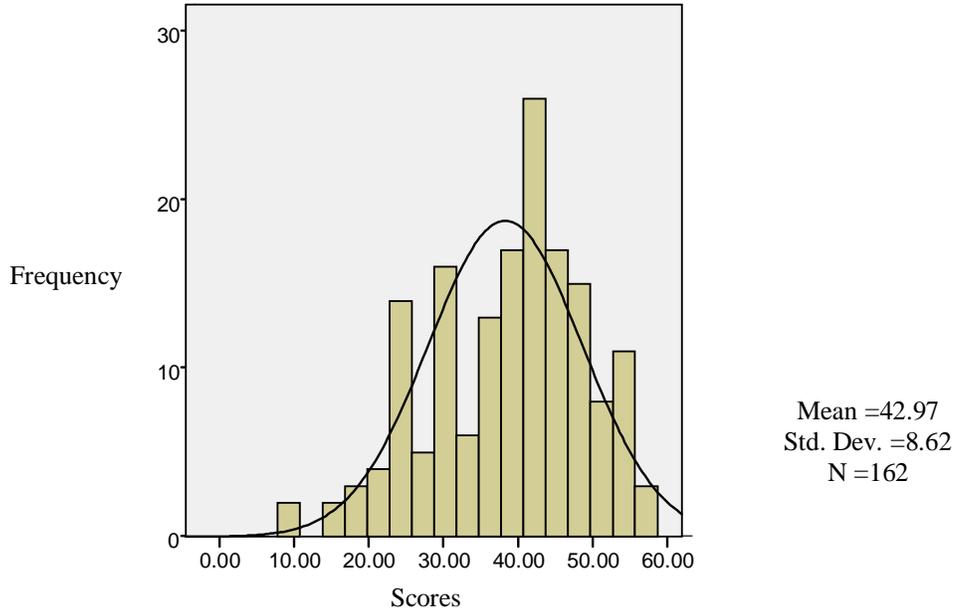


Figure 6

Distribution of Children's Hope Scale

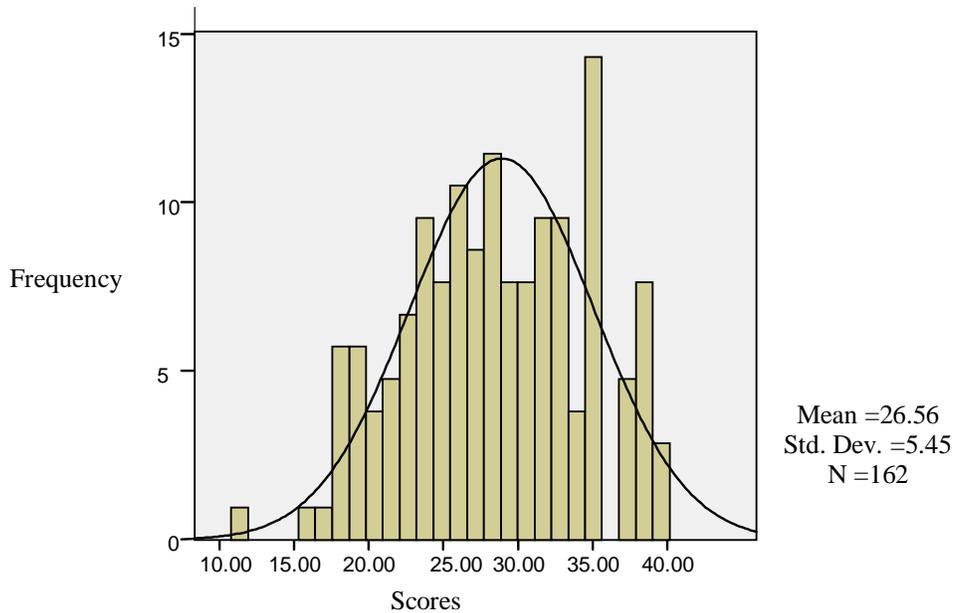


Figure 7

Distribution of Multidimensional Students' Life Satisfaction Scale

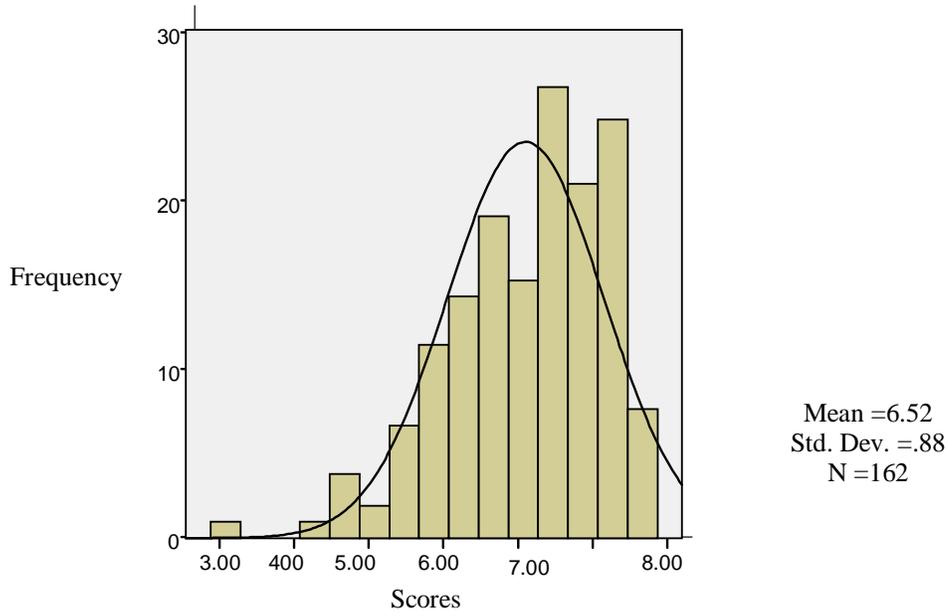
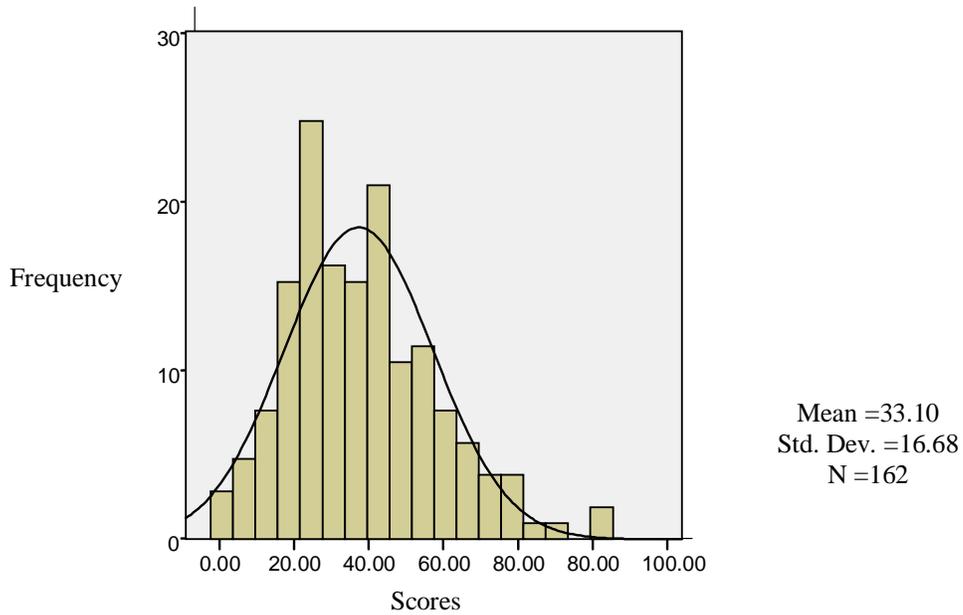


Figure 8

Distribution of Goff-Torrance Creativity Identifier



Oklahoma State University Institutional Review Board

Date: Tuesday, February 13, 2007 Protocol Expires: 9/7/2007
IRB Application: ED0367
Proposal Title: PROJECT CREATES - CONNECTING COMMUNITY RESOURCES
ENCOURAGING ALL TEACHERS TO EDUCATE WITH SPIRIT

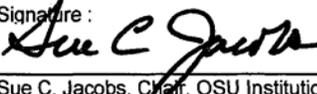
Reviewed and Processed as: Expedited (Spec Pop)
Modification

Status Recommended by Reviewer(s) **Approved**

Principal Investigator(s):
Diane Montgomery ✓
424 Willard
Stillwater, OK 74078

The requested modification to this IRB protocol has been approved. Please note that the original expiration date of the protocol has not changed. The IRB office MUST be notified in writing when a project is complete. All approved projects are subject to monitoring by the IRB

- The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

Signature: 
Sue C. Jacobs, Chair, OSU Institutional Review Board

Tuesday, February 13, 2007
Date

VITA

Jerilyn Thorman

Candidate for the Degree of

Doctor of Philosophy

Thesis: AN EXPLORATORY STUDY OF A MULTIDIMENSIONAL MODEL OF RESILIENCY

Major Field: Educational Psychology

Biographical:

Education: Graduated from Okmulgee, High School, Okmulgee, Oklahoma in 1990. Received a Bachelor of Art degree in English from Oklahoma State University, Stillwater, Oklahoma in May 1995. Completed the requirements for a Masters of Applied Behavioral Science in Education, May 1998. Completed the requirements for the Doctor of Philosophy in Educational Psychology at Oklahoma State University, Stillwater, Oklahoma, December 2007.

Experience: I received my Licensed Professional Counselor license in 2000. I was a clinical therapist from 1998-2000. From 2000-2005 I was a youth and family counselor. In both positions I worked with children, adolescents, and their families. I returned to graduate school in 2004. As a graduate teaching associate, I taught teacher education courses. I was also a graduate research associate as a member of a research team studying methods designed to transform teaching and learning in elementary schools. I have served on several other research teams as well.

Professional Memberships: American Educational Research Association, American Counseling Association

Name: Jerilyn Thorman

Date of Degree: December, 2007

Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: AN EXPLORATORY STUDY OF A MULTIDIMENSIONAL MODEL OF RESILIENCY

Pages in Study: 121

Candidate for the Degree of Doctor of Philosophy

Major Field: Educational Psychology

Scope and Method of Study: The purpose of this study was to establish a basis in the philosophy of the third wave of resiliency, conceptualized by Richardson (2002), as a motivational force which drives an individual to experience personal growth through hardship. Two theoretical constructs were created to examine the relationship between the motivational force and positive adaptation within the context of adversity. One hundred and sixty-seven third, fourth, and fifth grade students considered "at risk" participated in this study by completing measures of the variables associated with each construct. The first construct, *Resilient Force*, represented the motivational force and was operationalized by measures of sense of purpose, sense of belonging, hope, and creativity. The second construct, *Emotionality*, represented positive adaptation and was operationalized by measures of anger, anxiety, depression, and disruptive behavior. Bivariate correlational analyses were employed to assess the convergence of the variables within each construct. Canonical correlational analysis was utilized to assess the multivariate relationship between the Resilient Force Emotionality constructs.

Findings and Conclusions: With the exception of creativity all of the variables within the Resilient Force construct were positively correlated to a moderate degree. Correlations between creativity and sense of purpose and creativity and hope were not statistically significant. Creativity and sense of connectedness shared a low negative correlation. The variables within the Emotionality construct demonstrated were all positively intercorrelated. The results of the canonical correlational analysis between the Resilient Force and Emotionality variable sets indicated that the two constructs shared a considerable proportion of the variance, about 46 %. Several conclusions can be inferred from the results of the analyses. Although creativity defined as divergent production did not seem to fit within the Resilient Force construct, the convergence of sense of purpose, sense of connectedness, and hope provided empirical evidence that the theoretical construct of Resilient Force exists in actuality. Likewise, the Emotionality construct was observable among the children who participated in this study. Furthermore, the findings indicate that there is a strong relationship between an individual's Resilient Force and his or her adaptation. Implications for theory, research and practice are discussed within the paper.

ADVISER'S APPROVAL: _____ Diane Montgomery